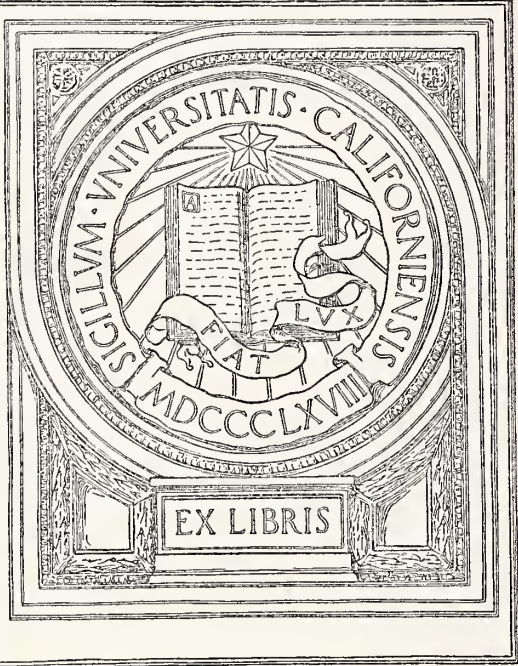
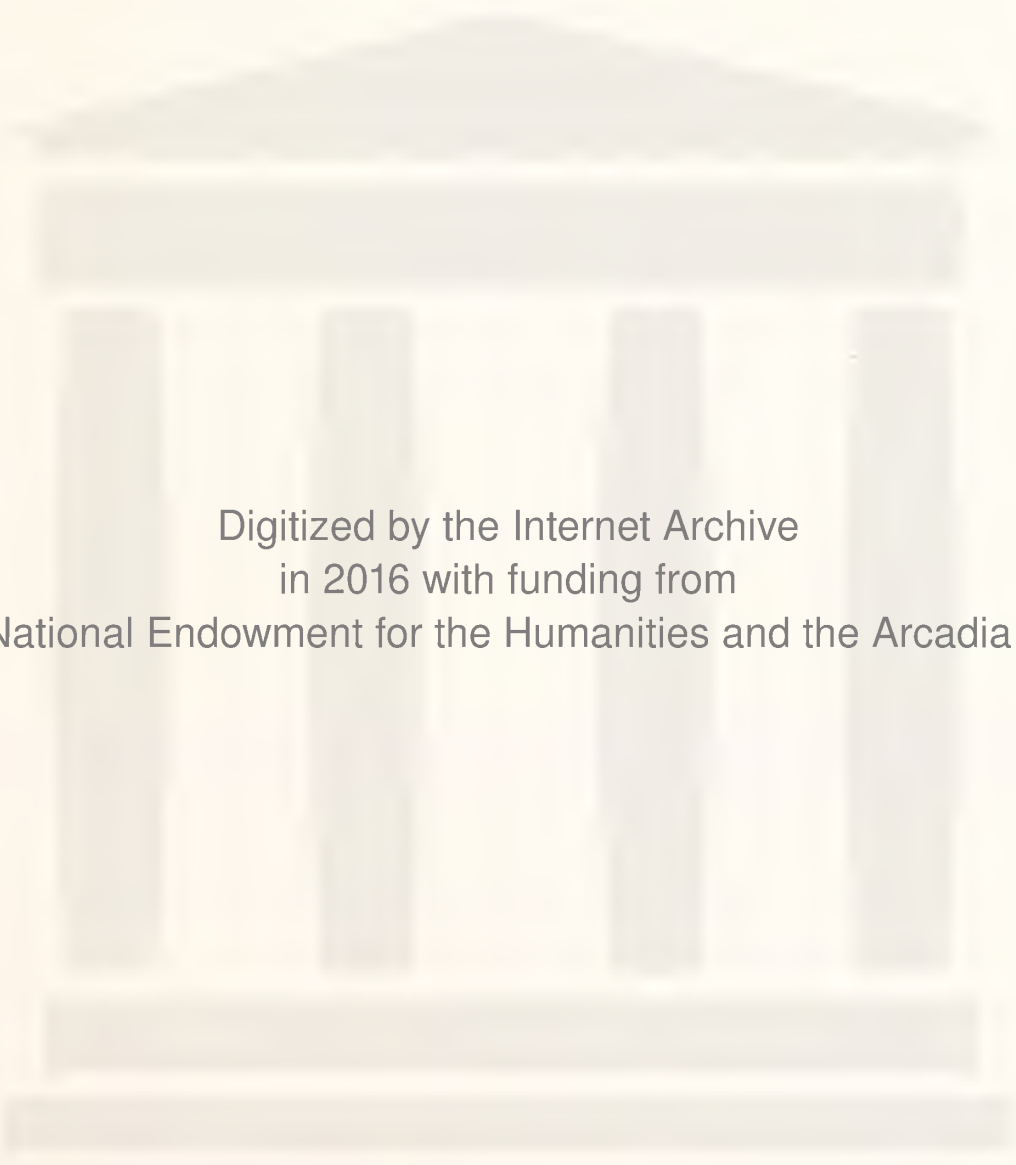


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CONTENTS

INDUSTRIAL OPHTHALMOLOGY . Edmund B. Spaeth, M.D., Philadelphia, Pa., and Boothbay Harbor, Me.	1
THEN AND NOW George E. Dash, M.D., Boothbay Harbor, Me.	6
SURGICAL COMPLICATIONS Philip O. Gregory, M.D., Boothbay Harbor, Me.	9
INTUSSUSCEPTION IN CHILDREN William W. Ward, M.D., Portland, Me.	11
HIGHWAY ACCIDENTS M. Martyn Kafka, M.D., Forest Hills, N. Y.	14
ACROSS THE DESK	17
CORRESPONDENCE	23

Continued on Page V

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Industrial Ophthalmology^{*}

BY EDMUND B. SPAETH, M.D.

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The possibilities of this subject are tremendous; for there are so many different phases to it. It probably has three main subdivisions — considering it as a true medical specialty. The first of these would be the organization and administration of job selection and placement, this including necessary ophthalmic examinations and the development of techniques for such examinations. The second would be the large subdivision of engineering and research for this specialty; problems in lighting and radiation, including all forms of radiant energy, those necessary for a job as well as those dangerous to health; ventilation; the problem of fatigue, space and posture; the chemistry and physics of industry as the various procedures demand human observation and manipulation; and the application to industry of those findings resulting from such research. The third is the protection from injuries, the treatment of injuries when these occur, and the rehabilitation of the injured, i.e., their replacement into a gainful occupation.

Industry is interested, basically, in the manufacture of some product and the disposal of this for profit. This

applies in all branches of industry regardless of whether it be connected with a private firm, as an automobile factory; the machine shop of a government Navy Yard; connected with heavy transportation; with road building, etc. Management is not interested in any item which will raise the cost of manufacturing of its product unless that additional expenditure will result in increased production or in lowered costs. This is only natural and that policy must continue. Employer, employee, and ophthalmologist are all essential for this program. The employer must be convinced that time spent in eye examinations, the cost of medical and surgical supplies, protective appliances, research laboratories, and medical staff salaries are justified, to quote those factors as most obvious. The employees must be protected against themselves — a project of education for management and for medical staffs. This is basic; for it is a well known fact that 40% of all individuals have visual deficiencies even before employment. Equally significant is the statement that 90% of all industrial accidents could be prevented by proper equipment, using those words in a very broad sense. Last, in this matter of responsibility, is the ophthalmologist. Too frequently his education, hence his interest, is only in the

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treatment of accidents, rather than in the prevention of these. Education and training are necessary before the ophthalmologist can cope with the special problems of any specific form of employment. Very simple problems may be considered here as illustrations; in some occupations color vision is not essential, in others excellent color discrimination is required, and in a third good stereopsis is the most important visual essential. The common factor each of these three present is the necessity for ophthalmic screening.

The problems of the industrial ophthalmologist are the following: the determination of procedures necessary before a person is employed, procedures necessary when or after being employed, and the prevention and treatment of injuries.

The first of these includes, as essentials, aid in the establishment of a medical staff; the institution of a system or a method of examination, and screening for both applicants and employees, provisions for rechecks at stated intervals; the development of suitable records for recording an individual's history and the findings from the tests and examinations, for the data on these records are an aid in the proper placement of all new and present employees; and assistance in placement, for visual qualities and abilities are not possessed to a maximum degree by all employees even with the best of correcting devices. The ophthalmologist must indicate to the placement authority those jobs suitable to the best obtainable visual and oculomotor efficiency of each employee, keeping in mind efficiency as well as the risks of injury to himself and to others. This implies a huge task of job classification.

The ocular examinations necessary and applicable when the individual is employed are somewhat different. Some of these, which are to be emphasized, follow. The study of occupational lenses is most important, for the age of the skilled worker is steadily and certainly increasing. The demands made upon vision by modern industry vary greatly with the different types of employment, so the industrial ophthalmologist must consider securing optimum vision at varying distances depending upon the type of employment. One example of this is quoted as an illustration. Bixler¹, (Donald P.) in establishing an eye-corrective as well as eye-protective program in 1947, at the direction of the Under Secretary of Navy, stated, "During this survey one important fact was noted; namely, that although many presbyopes were properly corrected, when they put on certain protective devices, notably welding hoods and burner's goggles, they were unable to utilize their bifocal segments in doing their near work. Some had separate near point additions incorporated in their hoods and goggles, but these were in the distinct minority.

"The usual sources of optical supply did not have any devices to overcome this defect. The question thus arose as to how a worker doing a near point task could do it efficiently and well if he could not see properly. We, (Bixler) found that this problem was solved sat-

isfactorily by having a large flat, uncut, spherical lens cut rectangularly to such a size as fit in the window of the welding hood. This then took the place of the unusable segment addition in the goggle lens. It was found to be an easy matter to have a lens cut of such size and power as to closely approximate the interpupillary distance and the effective power which would exist at the new corneal hood lens distance. This same method was used for burners and others using cup goggles for near work."

The study of adequate illumination as well as the control of unusual types and degrees of the various forms of radiant energy is equally as important. The study of the relation of vision to general health, and the opposite, include the control of ventilation, and the control of noxious fumes and atomized particles, of posture at work, of nutrition, and frequently of domestic and social relations. Suitable arrangements must be made for the re-examination of those found to have subnormal visual abilities; for those with high accident rates or with low production outputs, and for the correction of such defects and findings. This includes the necessity for furnishing administration with recommendations for such situations. The institution of protective programs and campaigns, for various forms of protective devices, and methods for their continued application are rather similar, in fact a part of that just mentioned.

Procedures which fall within that called the clinical side of industrial ophthalmology are not especially complicated. First aid stations must be outlined and established, easily accessible with the necessary equipment and medical supplies for the examination and treatment of eye injuries. It is probable that a nurse should be in attendance at all times, one who has been especially trained and instructed is most valuable. Her activities should be under the direction of the ophthalmologist at all times. If the size of the plant is too small for a nurse to be in attendance, then some employee should be given training in first aid.

Arrangements must be made for the transportation of injured cases to a hospital or infirmary where first aid forms of therapy are terminated and other necessary medical, surgical, or investigative procedures carried out. Recovery in these cases should be completed by placing them in proper jobs, after necessary training and the consideration of their added visual handicap. The industrial ophthalmologist should be capable of giving these cases advice in the medical-legal field as to the computation of the degree of visual disability resulting from the injury, and he should have an expert knowledge of compensation laws of the several states.

The benefits which appear from professional eye care for workers with lowered visual performances are remarkable. There can be no doubt any longer about that. Morgan² (W. Gregory) and Stump (N. Frank) recently completed a detailed survey in regard to this. Two basic facts were revealed. The first — there is

a direct relationship between visual performance and average hourly piece-work earnings; and the second — there is a definite advantage to the company when visual performance standards for various jobs are met. Some of the conclusions of these two authors follow herewith, verbatim. "Very definitely, proof is now available that a new employee is, at least, visually qualified when he goes to his new job. In experienced employees, those who meet the minimal visual qualifications average more money per hour with less make-up pay than those who do not meet the standards. Training time is less when there is increased efficiency in visual performance, savings in learning time ranging from 12% to 35%. Resurveying of visual performance can be done any time when the need is apparent. The visual performance tests form a very important part of our physical examinations. Many more applicants for employment are required to receive professional attention because of visual inefficiencies than any other single factor. All applicants who have inefficient visual performance are urged to seek professional eye care and thereby many are salvaged and subsequently, brought up to the minimal requirements. Present employees who did not meet minimal requirements and who, on advice, sought professional eye care, later as a result made more money for themselves as well as for the company. In transferring an employee from one section to another a check is made to see if he is visually qualified for the prospective job. A 'vacancy-posting' set-up is in operation. By this procedure the employee, generally, initiates the request for transfer. Then a check is made to determine whether he passes the medical examination and the visual performance tests. In our program (Morgan and Stump) every effort is made to carry out the basic philosophy, 'Eyes for the job.'"

Sufficient controls were set up by these investigators to indicate that the improvements obtained, and quoted briefly above, were largely due to an increase in visual performance. There are no limits to managements' cooperation, and to the lengths to which ownership and management will go when presented with such evidence.

As a further portion of this paper the author wishes to discuss some important aspects of the clinical applications of industrial ophthalmology. These selected have been chosen because of their certain constant importance. They are: the necessity for the posting of 'Standing Orders' in plants, in infirmaries, and in dispensaries; the better treatment of chemical burns of the eye and the lids; some factors in intraocular metallic magnetic foreign bodies; and the disposition of the unioocular aphakic.

Many plants have inconstant personnel at their first aid station. Some may have full time physicians while others, to an opposite degree in size, may have to depend upon the office secretary for first aid treatment. Nevertheless, and including the extremes of both, standing orders are of outstanding importance. Nale's³

(Thomas W.) outline, of the Union Carbide and Carbon Corporation of New York, is a classic example of this. He will be quoted extensively, and in part verbatim. His orders are divided into five subdivisions. They are: A, Foreign Bodies Entering the Eye; B, Traumatic Injuries, Lacerations or Puncture Wounds; C, Flash Burns or Thermic Burns of the Eye; D, Persons with Hot Pieces of Metal or Sparks in the Eye; and E, Chemical or Irritating Fumes, Exposures and Contacts.

In the qualification of these orders great attention is paid to adequate examination. This sounds almost absurd, when addressing physicians who are in the greatest number also clinicians. Nevertheless, a lack of adequate initial examination is the outstanding fault in treatment of these cases. Such factors are emphasized as everting the upper lid, staining all cases with fluorescein, the use of adequate illumination, the examination of an eye for the loss of fluid from the eyeball itself (a sign of perforation of the eyeball), the observation of the pupil in ocular contusions, the questioning of the patient as to the vision still present in an apparently damaged eye, and the recognition of this fact — that certain chemicals can and do cause delayed reactions instead of immediate effects, and that one must be on the lookout for these. Chemicals in liquid or in gaseous form are equally dangerous if the patient suffers exposure to them.

A survey of blindness from industrial accidents shows that some form of a chemical trauma to the globe is still the single highest cause for industrial blindness, or severe impairment of vision. There is no doubt that the prevention of these injuries is improving. As long as they appear, however, adequate and proper treatment is of outstanding importance. The requirements for such treatment are threefold: 1, the dilution and through this the removal of the chemical; 2, the chemical or physical neutralization of the offending substance, but even more important, a neutralization of the effects of the substance upon the tissues involved; and 3, the protection of the adjacent normal or the recovering tissues, as well as the stimulation of the regrowth of those tissues involved. To carry out these essentials in treatment it is necessary to know the offending substance, the degree of exposure, approximately, and the length of time which has intervened since exposure and the first treatment. It is wise to remember that many gaseous substances penetrate the cornea rapidly, especially the ammonium radical, and that repeated anterior chamber paracenteses must be done to limit the anterior chamber damage from the intraocular aqueous solutions of these chemicals.

These cases, when initially injured, are not bacterially contaminated, but that can and frequently does follow rapidly because of the rapidity of bacterial growth upon necrotic tissues. Water is the best diluent in almost all situations, and usually an adequate amount of this is easily obtained and accessible. The dirt almost certainly present and connected with the original injury

and the subsequent immediate treatment are usually the cause for these infections. One should remember this without fail in considering the first aid of ocular injuries.

H. Kuhn called attention to the obsolete practice of treating acids with bases, and the opposite, i.e., the chemical neutralization of substances rather than the neutralization of the effects of such substances upon the tissues. A solution of neutral ammonium tartrate is the only chemical substance still considered as satisfactory and adequate for the first of these demands. Actually it continues to be a most valuable therapeutic agent. The second, though this, in effect, bridges that question of chemical neutralization and the neutralization of the effects of chemical substances, is the surgical resection of necrotic tissues and the immediate use of mucous membrane grafts, as a replacement for these necrosed tissues as well as for the protection of the sensitive contiguous tissues which would certainly become infiltrated with scar tissue, hence lose transparency and become vascularized. Dr. Kuhn's essentials for treatment follow herewith: "Ability to control pain at all times, produce fast healing, and effect recovery with less impairment of vision as a permanent disability."

In considering the many aspects of the therapy for intraocular metallic foreign bodies one too frequently underestimates the value of a history of the injury. This should include not only a review of the anatomic conditions present at the time of the first examination, but also the course and pathway of the moving metallic fragments and a careful examination of the possible metals of which the intraocular foreign body could consist. A foreign body which has resulted from the removal of a bushing from a bearing with a cold chisel and hammer, for example, could be either high carbon steel, low carbon steel, or brass, and these three, it is very evident, have different responses to a magnet. The prognosis for intraocular magnetic foreign bodies is so much better than for nonmagnetic particles that differentiation is desirable. The density of radio-opaqueness as seen upon an x-ray film is not sufficiently satisfactory for determining magnetic qualities. The treatment of the two possibilities is so very different that one must learn as much as possible about each case.

Urgency in the transportation and surgical treatment of these cases is outstanding. The antibiotics now available and almost selective as to the type of organism present, combined with this factor of early surgery, are largely responsible for the wonderful visual results being obtained after the successful removal of these foreign bodies.

Posterior route magnet extractions are to be limited to those cases in which the foreign body can be removed through a posteriorly placed wound of entrance, to cases in which the foreign body is too large or of such a shape as to make it quite inadvisable to carry it through the suspensory ligament, and cases in which

there seems to be good evidence that the foreign body is entangled in the retina, in the choroid, or in both. These last mentioned cases need accurate localization; for the foreign body should be removed through a posterior sclerotomy accurately overlying the foreign body. The importance of accurate localization, by some form of x-ray examination, when the foreign body is otherwise only behind the lens-suspensory ligament diaphragm, is much overestimated. All one needs to know is that the foreign body is magnetic, and that it is free within the vitreous.

These cases ought to be operated with the giant magnet. When the foreign body is to be passed through the suspensory ligament into the angle of the anterior chamber the giant magnet is also necessary. At this point the hand magnet is to be substituted for the giant magnet and the foreign body removed after a keratome incision into the anterior chamber angle at the root of the iris. The hand magnet is essentially a contact instrument, this assuming that no more than the thickness of the cornea lies between the tip of the magnet and the foreign body. The giant magnet is used for entirely different reasons, in quite a different manner, and under principles which are quite different. One must pay attention in the use of this instrument to magnetic fields and to those laws which are distinctly applicable to this, both as to the magnet as well as to the foreign body. Success with the use of the giant magnet will be certain only under such circumstances. That practice of introducing a long, slender curved tip on a hand magnet into the vitreous is fruitless, is very bad surgery, and equally bad physics.

It seems tragic, but apparently it is still necessary to repeat that statement which has appeared so frequently in the literature, originating from many sources, that an original scleral wound of entrance as well as/or the wound of a posterior sclerotomy should be treated with diathermy or with the actual cautery to prevent the development of a later retinal separation because of that sclerotomy incision into the retina or from the retinal laceration of the foreign body entrance into the vitreous chamber.

The lot of the unioocular aphakic is at the present time accompanied by doubt and by considerable difficulty. Some years ago the Pennsylvania Superior Court ruled that an eye shall be considered lost, for compensation purposes, following the extraction of a traumatic cataract. Because of this unwise decision insurance companies will refuse to pay for the treatment of an injured eye in which a traumatic cataract may develop because of the injury, knowing that regardless of the operative result obtained they will have to pay for the complete loss of that eye. The effects of this ruling are all tragic, and some so absurd as to be exasperating. Two examples will illustrate. The first is that of a one-eyed man, now with 6/6 vision with his aphakia lens, receiving compensation for the total loss of this remaining eye, who is now gainfully employed as a

carpenter. The second is that of a coal miner, receiving payment for the total loss of both eyes, who has 1/60 and 6/6 vision in the two eyes, respectively, and who faces the probability of being paid twice for the loss of the same eye, i.e., the second injury to the right eye. Others equally illustrative of this stupid court decision will appear.

Binocular single vision is a common finding after the extraction of cataract from one of the eyes. The use of a contact lens has proven this without any doubt. Even that is not necessary, however. The two Kuhns' (Hugh A. and Hedwig S.) analyzed 82 of their patients who had been operated, by them, for monocular traumatic cataracts, and who were fitted with their aphakia correction for constant wear. Naturally, the largest number of these cases needed training in learning to use their monocular aphakia lens, and such training was supplied them until they were comfortable or it was found that they could not achieve comfort. Sixty-eight or 83% of the patients had no great difficulty in finally being able to wear their full aphakia correction. Eleven patients, or 13% had a moderate amount of trouble but were not sufficiently uncomfortable to require a change or to dispense with the glasses. Only three cases were totally unable to wear their full correction, and of these one was made comfortable with a contact lens. Alternating monocular vision is still usable vision.

The reasons for insisting upon surgery in these cases, as presented by the Kuhns is concurred in without question by this author. These are as follows: 1, Occupational demands requiring nearly normal vision in both

eyes. 2, The inherent right of an individual to be given the best possible vision. 3, The advantages to the surgeon and the patient that are gained by an operation of choice when the patient's physical condition is good. 4, The actual relative infrequency of any great post-operative discomfort.

CONCLUSIONS

An attempt has been made in the presentation of this paper, to emphasize the necessity for better Ophthalmology in Industry, and to show the opportunities present for this. In addition, various important clinical applications have been discussed in that they seemed to be most significant in a presentation which must be as brief and as limited as this. The bibliography of related material follows herewith; for it is certain that this is equally important.

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Then And Now

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It has recently been the privilege of this writer (with hundreds of other physicians), to have passed his fiftieth milestone in the practice of medicine. It is most interesting to contrast the conditions of 50 years ago with those of today. Consequently, we felt that it might interest the younger men to note the many changes that have taken place, and enable them to better appreciate the facilities of today. There is no doubt that in medicine, and in the world in general, these last 50 years have been the most fruitful in adding to our knowledge and comfort. They are the years of the greatest advances in history.

Medical schools then were of far lower standards than now, many operating only for profit. Entrance requirements were low. Ohio, the writer's home state, required only a high school diploma for admission. Internship was not required and the writer was among those who, in 1905, took the first State Board Examination ever held in Ohio. Medical schools had very few full time teachers. The faculties consisted of practitioners in the community. There were no bed-side classes, and almost all of the teaching in the hospital consisted of operating amphitheater demonstrations. With the then limited hospital facilities, internships were not readily available. Yet there was an inspiration from these teachers, most of whom were successful practitioners, and who took a personal interest in their students. We looked up to these men and almost idolized them.

Laboratory facilities in the schools and hospitals have probably shown the greatest advance. We did some rather crude blood counts, some urinalyses, some gastric content analyses, an occasional spinal fluid examination, but no blood chemistry. Most of our patients were cared for at home or in the office. The hospital was for surgery and for the desperately ill. X-rays were just coming into use: this writer had a static machine with the large revolving glass plates. It took an eight minute exposure to get an elbow picture; chest and abdominal pictures were impossible. The physician had to rely far more on his own observation, and made far more use of his five senses than does the physician of today. Obstetrical cases were all treated at home, even high forceps and craniotomy. It is interesting to note that there were relatively few cases of puerperal sepsis. The trend in the hospitals was toward antisepsis rather than asepsis. We recall this method of sterilization of the hands and arms before operations by the surgeon and his assistants. There were two deep

jars on a stand, in the first was a solution of potassium permanganate, almost black in color: the arms were dipped in this for a period of about one minute, long enough to have the skin thoroughly stained, then into the next jar, containing oxalic acid, which bleached the color out in a hurry, taking some of the epidermis with it, and finally into absolute alcohol. There was not much question as to the efficiency of the antisepsis.

Inasmuch as the writer limited his practice to pediatrics shortly after graduation, most of the following will deal with pediatrics rather than general medicine or surgery.

There has been a very definite change in the characteristics of many diseases, tending in most instances to becoming milder. This may be due to better and earlier diagnosis, better sanitation and better therapy. Neonatal mortality was high and unfortunately there was not a kind feeling between the obstetrician and the pediatrician. We were not called in as frequently as we would have liked to have been. Respiratory infections were responsible for many deaths in the first year of life. We did not recognize cerebral hemorrhage as early as we do today. Nothing was known of the RH factor, and erythroblastosis was called icterus gravis neonatorum, no treatment available, and the mortality was 100%. Our care of the premature was not too bad. We recognized the old axioms of treatment which still hold good today; proper temperature maintenance, proper feeding, and avoidance of infection, particularly respiratory. True, we did not have anything to compare with the modern incubator; but a laundry basket, hot water bottles and a good nurse, accomplished wonders.

Use of the Crede treatment for prophylaxis of ophthalmia neonatorum was not routine. One had to see the pitiful picture of these eyes only once. The prognosis, under even the best treatment, was poor. Up to 20 years ago something like 11% of all blindness was due to this disease. Simple reflection makes one realize the value in sight saving by this prophylaxis treatment.

Respiratory infections were far harder to treat. Even the simplest tonsil and pharyngeal infections were often complicated by suppurative otitis media; and this too often by mastoiditis and sinus thrombosis. Lobar pneumonia in the adult carried almost 50% mortality. (Is it any wonder it was called "the friend of the aged" and "the Captain of the men of Death"?) In Children the mortality rate was far lower, but we still had to wait for

the seventh day crisis. No therapy of that day would shorten this one hour, or influence the course in the least. A high percentage developed empyema. Those were the days of fresh air therapy. Pneumonia and TB patients were pushed out onto the porches, even in the dead of winter. Sometimes a physician in his enthusiasm for this type of procedure, would kick out a pane of glass in the sick room window. Bronchopneumonia, possibly our viral pneumonia, ran a very long course, often two to three months. Croup of the spasmodic or catarrhal type was common, and the cause of many of our night calls. The routine treatment for this was an emetic, usually ipecac, and later we used steam inhalations as an adjunct.

Gastrointestinal conditions were hard to handle. Infant feeding was by no means standardized. Every physician had his own ideas and acted accordingly. Whole milk (cow's milk) was the basis of all feedings and 50 years ago, strict inspection of dairies and personnel was just beginning. Hence the unclean milk given to a baby in his second summer (he was usually breast fed the first year) caused the high incidence of gastrointestinal disorders and the so-called deadly, "second summer." Many babies also died from TB meningitis labeled by the laity as "teething through the brain."

We had no scientific knowledge of the finer points of metabolism. Scorbutus was very often seen; the bleeding gums, subperiosteal hemorrhages, and anemia were unmistakable. There was nothing in the whole field of medicine as spectacular as the results of giving orange juice to these babies. We did not know it was vitamin C, but we did know that the orange juice cured them.

Rickets, too, was far more common. The old text books listed it as a disease of winter, showing that those old observers were paving the way for the "sunshine vitamin." We did not need to x-ray the ends of the long bones to make a diagnosis. The large head, open fontanelles, rachitic rosary, Harrison's groove, the deformity of the long bones, all made the diagnosis easy for us. Here cod liver oil produced miraculous results. We of course learned later that this disease was a vitamin D deficiency. But long before we heard of vitamin D, cod liver oil had been specific. There is today an unfounded belief that rickets is a thing of the past, but this is not true. We still see scattered cases today.

The picture of the contagious has radically changed. Diphtheria is probably our best example. Fifty years ago, diphtheria antitoxin was just coming into use. It was crude and bulky, it took about 1 to 1½ ounces of horse serum to get a 10,000 unit dose, and it carried with it the risk of serum shock. Adrenalin was not easily available as it is now, and many children died from the serum rather than from diphtheria. The disease was terrifying. We did not have the efficient and readily available laboratory services and our diagnosis was based on the color of the membrane, the

characteristic spreading and the peculiar odor which would often fill a room. In the absence of quick laboratory service we usually did our own. We carried the smears on well-stoppered test tubes in our vest pockets, (a really efficient incubator) to our offices for the microscopic examination. We were constantly on the lookout for diphtheritic croup and all of us carried the set of O'Dwyer intubation tubes and were prepared to use them or do an emergency tracheotomy. We would usually see some fifty cases of diphtheria a year in private practice, and one can not fully appreciate the untold value of our routine immunization unless he has seen these severe cases.

Scarlet fever has changed. We do not see the severe septic types, children often dying within 24 hours. We have seen children with severe septic throats where the rash has appeared after death.

Measles has changed — it is much milder and complications are fewer. We used to see many cases characterized by severe toxemia, in which the rash was almost purpuric, the so-called "black measles." These cases had a very high mortality, many developed pneumonias and otitis media, and subsequent mastoiditis, often radical mastoidectomy had to be done.

Hereditary syphilis had a different picture. We had no laboratory tests and the diagnosis was a matter of observation and judgement. The classic picture was that of an infant who failed to gain regardless of an adequate formula, had snuffles, rhagades at the corners of the mouth, enlarged spleen and the "too old for his age" look. And the treatment! Blue ointment (mercurial) rubbed into the axillae and groins, and gray powder (mercury with chalk) internally. We don't know whether they were cured but at least there was an amelioration of the symptoms. One can readily understand how we appreciated the discovery of the serological tests; even the early Wasserman reactions helped. Incidentally, there was a time when we took the blood specimen from the open fontanelle and superior longitudinal sinus. Then when the intravenous arsenicals were proven so efficient it seemed that our luetic problems were over. No one ever dreamed what was in store for us with the discovery of penicillin. It might also be mentioned that in the early use of 606 and the later preparations of Ehrlich, the operator felt it necessary to cut down on a vein with ligatures above and below — such a procedure as going through the skin into the vein was unknown. Meningeal cases were always a problem. In the early days spinal taps were not common and one had to rely on his knowledge of the characteristic features of the various types for his diagnosis, as for example the rash that often accompanied the meningococcic type. When the spinal tap came into routine use, many of our diagnostic problems were solved. Meningococcic and pneumococcic infections with their cloudy fluid and high cell count, were easily spotted. When the serum became available for the former the mortality was cut to about 50% though

often followed by such sequelae as loss of vision or hearing. Contrast this with the results of penicillin treatment. Pneumonococic, influenzal, and tubercular meningitis were 100% fatal.

Pulmonary tuberculosis also presented its difficulties. One has only to read the old text books on physical diagnosis with their fine points of technique; the many different types of râles, the delayed expansion of the lung, the "cracked pot" resonance, gurgles, and a host of other physical signs. The characteristic temperatures, the night sweats and emaciation all helped toward a diagnosis. The younger men will see how much easier they have it if they contrast that era with today's chest plate and tuberculin test. We used to see quite a few cases of acute pneumonic tuberculosis, then called "galloping consumption." Fortunately one rarely hears of this type today.

Rheumatic conditions were common, we had no sedimentation test, and our diagnosis had to be entirely clinical. When rheumatic fever was suspected, long periods of bed rest were indicated and many of the heart men of that day prescribed an ice bag over the precordium.

We realize today how wrong many of our procedures were; we knew so little about the basic rules of metabolism. We restricted fluids in diarrhoea and our patients died from dehydration. We did not use that word, we did not know what it meant. We forbade proteides in albuminuria not realizing that the intake would be as high or higher than the output. We had no transfusions; the nearest approach in later days, when we realized that fluid was essential, was subcutaneous normal salt solution.

We have seen the greatest advances in therapy in any period of medical history. Empirical medicine has been almost superseded by rational therapy. True some of the older drugs still survive and are used for much the same purpose as in the past; quinine, caffeine, digitalis, the opiates and a few others. It is hard to realize that there was no narcotic act. One could go to his wholesaler and buy over the counter, morphine, codeine, and cocaine. Digitalis was then, as now, our heart mainstay, but it was not standardized and was most often given as the infusion or powdered dry leaves. Quinine was the known specific for malaria, and was also thought to influence pneumonias for the better. We relied pretty heavily on whiskey in many cases, such as tiding the pneumonia patient over his crisis. The salicylates were the standard treatment for rheumatic conditions; from

oil of wintergreen and from oil of birch. All these preparations upset the stomach and were often given in massive doses by retention enema. We older men can not forget the advent of aspirin, how it was hailed as the wonder drug, and it really was for its time. In fact, many of us felt that if we were limited to one drug only, our choice would be aspirin. It did act on viral conditions, was safe and efficient. We recall paying \$4.80 for 100 5 grain tablets, wholesale, when it was first introduced. Then came the sulfa group with their marvelous action and finally the antibiotics which have so greatly simplified our procedures.

It is interesting to look back on the early days of vitamins — when our stock was 4 only, A-B-C & D. This was before the manufacture of vitamins became as highly commercialized as it is today, and we really got along very nicely with just these four.

Hormone therapy came in this period, too. We knew a little about thyroid. For instance, if it were fed to a cretin his metabolic balance could be restored. We felt that excess of thyroid was present in Graves' disease, but as we had no basal metabolism test, we had no accurate proof. We knew a little of the adrenals, and felt that lack of pituitary was responsible for Frohlich's syndrome.

Transportation, as we look back at it, was quite a joke; horse and buggy or horseback was supplemented by bicycle in the early days. Then came the early autos — all open cars and no self starters. We used to try to park on a hill, leave the car in gear, then coast to start it to avoid cranking and the possibility of a broken wrist from backfire. Tires had to be changed on the road. In the old days there were no demountable rims or wheels, the inner tube had to be patched, put in and the backbreaking pump used. It's a wonder we lived through it.

Fees? Office consultations were 50 cents often including some medicine, house calls \$1.00, night calls \$1.50, obstetrical services \$10.00 to \$15.00, but with the low cost of living we were able to save some money.

We have omitted much; it would take a longer paper than this to recount experiences in the terrific epidemic of 1918, and during the First World War.

We repeat that this 50 years has been the era in which modern medicine has made its greatest strides and we count it a privilege to have been allowed to see it and live through it. We do hope that the younger men will look back with us older fellows and fully appreciate the wonderful opportunities now available.

Surgical Complications

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This is the case of a young man who for years had suffered because of a duodenal ulcer in spite of adequate medical treatment. The case is presented because of the unusual and rare complications that he presented surgically over a period of sixteen months. During this time he was in and out of the hospital six times.

First Admission: This 26-year-old male grocery clerk was first admitted to Saint Andrews Hospital at 6:35 A.M. on January 23, 1954, complaining of abdominal cramps. He states that at about 3 P.M. the day before, he started vomiting large amounts of sour vomitus. Vomiting continued and at about 4 P.M. he vomited blood; at the same time he started to have diarrhea. He was quite comfortable that evening and until 5 A.M. the next morning when vomiting and severe abdominal cramps started again.

Physical examination revealed a tall, thin, anxious appearing young man. He was very pale. Pulse 116, blood pressure 96/50, temperature 102°. Laboratory studies showed positive occult blood in stool, urine negative, R.B.C. 4,810,000, W.B.C. 13,300, Hgb. 100%, mature neutrophils 66%, 14 Stabs, 1 Eosin, 17 Lymphs, 2 Monos.

He was medicated and fed by vein the first 24 hours. On January 24 an x-ray and fluoroscopic study of his stomach showed a duodenal ulcer. He was put on an ulcer diet, given belladonna before meals and amphojel after meals. He did very well and was discharged to his home on January 26, 1954, after three days of hospitalization.

Second Admission: On January 29, 1954, three days after discharge from the hospital, the same patient was readmitted with abdominal cramps, nausea, vomiting and diarrhea. He was again quieted down with sedatives and given intravenous feedings. A repeat fluoroscopic examination was done on January 31, 1954, and the condition was unchanged since the first admission.

An exploratory laparotomy and subtotal gastrectomy was done on February 2, 1954. A peptic ulcer measuring $\frac{3}{4}$ inch was found on the posterior wall of the duodenum firmly attached and penetrating the pancreas. This ulcer defied mobilization or excision. The pyloric ring and the first part of the duodenum was then invaginated leaving the ulcer in the first portion of the duodenum. The rest of the operation was carried out using the Polya method. About $\frac{1}{2}$ of the stomach was removed. The patient received 500 cc. of blood during the procedure and left the operating room in good con-

dition. He made an uneventful recovery and left the hospital eleven days post operative having no complaints.

Third Admission: On February 26, 1954, 13 days after leaving the hospital, he was readmitted because of pain in stomach and vomiting. On examination there was tenderness about the incision with point of maximum tenderness near its middle. No tumors or masses were felt. No herniae. He was in a highly nervous state, apprehensive and worried, and it was decided to treat the patient medically. He was again given sedatives, intravenous feedings, Levine tube, etc. After admission vomiting stopped. He was given some barium by mouth and fluoroscoped. The stomach showed no defects, the gastroenterostomy was functioning well, and there was no evidence of ulcer at the stoma. His condition improved, he took and retained food well and he had no nausea or pain. He was placed on an ambulatory ulcer diet, given some antispasmodics and antacids and nine days after admission was discharged.

Fourth Admission: On April 18, 1954, (42 days later) he was admitted to the hospital with sharp epigastric pains, nausea and vomiting of less than 24 hours duration. He had been perfectly all right since the last admission. Examination of the abdomen was the same as on previous admissions. X-ray studies, made four days after admission, showed a marked filling defect in the stomach and a distended small intestine in right upper quadrant.

Exploratory operation was performed on April 23, 1954, and a retrograde Jejuno-gastric Intussusception was discovered. The efferent loop had undergone intussusception and had passed through the gastro-enterostomy stoma causing a high intestinal obstruction. Reduction of the intussusception was accomplished by opening the stoma and reducing the swollen, discolored, distended loop of bowel into the abdomen. Reconstruction of the anastomosis was done followed by suturing together of the efferent and afferent loops of bowel. The patient's condition was poor following this operation. A Miller Abbott tube functioned poorly. He was given blood transfusions and intravenous dextros as well as supportive treatment. The upper abdomen became flat, but the lower abdomen was distended. No sounds were heard in the abdomen. On May 5, 1954, (12 days after operation) the diagnosis of paralytic ileus was made and under local anesthesia a Wangenstein Enterostomy was done. A large amount of

liquid fecal matter and flatus was obtained. On the third post operative day, the enterostomy started to function, and distention disappeared. The patient started to eat and his condition improved steadily. On May 7, 1954, seven days after enterostomy, he had a small bowel movement. There was daily improvement, and the enterostomy started to close and the patient was allowed up and around by June 18. He went home on June 30 with his enterostomy practically closed. By this time, he was eating almost everything. His time in the hospital on this admission was 68 days.

Fifth Admission: The patient came back to the hospital with a draining fecal fistula and was admitted to have it closed on September 24, 1954. Preparation of the intestinal tract was carried out, low residue diet and neomycin for three days. The closure of enterostomy was done by resecting that portion of small intestine with the fistula and doing an end-to-end anastomosis using cotton sutures. The patient made an uneventful recovery and was discharged to his home twelve days following operation.

Sixth Admission: This patient has had five admissions during the past year. He was discharged the last time, approximately seven months ago on October 12, 1954. He had been perfectly all right, eating well, feeling well, gaining weight, and working every day. Two days before this admission on April 26, 1955, he had some pain in the upper abdomen followed by nausea and vomiting. His bowels have not moved. He had

been able to take liquids, keep them down about seven hours, then vomit all he had eaten. Examination revealed a well developed rather ill-appearing man with slight distention of upper abdomen and some tenderness. There are noticable peristaltic waves going across the epigastrium from left to right. Abdomen is very noisy. No masses or tumor felt. Several well healed abdominal scars. No herniae. Diagnosis of small intestine obstruction was made. After 24 hours of preparation the abdomen was opened and many adhesions were found between the gastro-enterostomy and the ileo cecal valve. There was considerable distention and engorgement of the vessels in small intestine mesentery. All adhesions that in any way obstructed the lumen were freed by sharp dissection. The patient recovered promptly and was discharged to his home on the seventh post operative day. Incision well healed.

SUMMARY

The following operative procedures were employed in treating this patient.

1. Polya operation for chronic duodenal ulcer.
2. Wangensteen method of duodenal closure where the ulcer defies mobilization.
3. Reduction of Retrograde Jejuno-gastric Intussusception.
4. Wangensteen Enterostomy.
5. Closure of fecal fistula (small intestine).
6. Operation for small intestine obstruction due to adhesions. (Lysis of adhesions.)

Intussusception In Children

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INTRODUCTION

A child with intussusception, recently admitted to the Maine General Hospital, presented a diagnostic problem of interest to both the pediatric and surgical services. This case prompted the following summary of pediatric cases of intussusception in the Maine General Hospital since 1948. While there are many excellent papers on this subject, it needs reemphasis because it is a surgical emergency which is not always easy to diagnose.

Intussusception occurs much more frequently in children and in many ways is an entirely different disease than intussusception in adults. In children the etiology is usually unknown, the patient is acutely ill and requires immediate treatment. Intussusception in adults is generally caused by a tumor, the patient is not acutely ill and often does not require immediate treatment.

EXPERIENCE AT THE MAINE GENERAL HOSPITAL

Since 1948 twelve patients were discharged from the Maine General Hospital with the diagnosis of intussusception. Nine of these were under three years of age. These nine cases are summarized in the accompanying table. There were no deaths. In all patients who underwent surgery the correct diagnosis was made preoperatively. In four patients the diagnosis is not certain; three recovered without surgery, and intussusception was not seen at surgery in the fourth. Two patients were operated upon by residents in surgery, the remaining were private pediatric or surgical patients. No statistically valid conclusions can be drawn from these cases because the number is too small and there has been no long term followup.

Case one did not have abdominal pain but was "fussy" for two and one-half days prior to hospitalization. An ileo-colic intussusception was reduced but a portion of ileum was resected, and anastomosis performed because of perforation and embarrassed blood supply.

Case two had typical findings and was operated upon within twenty-four hours. Although no intussusception was found, the colon was edematous and inflamed and it was assumed that an intussusception had reduced itself shortly before or during surgery.

Case three went to another hospital before a diagnosis could be established.

Case four had a typical history but was clinically well shortly after admission. His mother noted relief of symptoms following an enema she had given him.

Case five had a typical history and a mass was felt on rectal examination. A coli-colic intussusception was readily reduced at operation twelve hours after the onset of symptoms.

Case six showed ileo-colic intussusception by barium enema. Thirty-six hours after the onset of symptoms exploration revealed ileo-ileo-colic intussusception with a Meckel's diverticulum as the leading point. The intussusception was reduced and the Meckel's diverticulum and normal appendix removed.

Case seven had characteristic clinical findings and a history of pain relieved by an enema given at home. Because the first barium enema was reported initially as 'normal' and the child improved temporarily surgery was postponed. His symptoms returned and a repeat barium enema showed ileo-colic intussusception. Three days after the onset of symptoms an ileo-ileo-colic intussusception was reduced and a normal appendix removed. A Meckel's diverticulum not involved in the intussusception was not removed.

Case eight had typical clinical findings but improved markedly soon after admission.

Case nine is the patient that prompted the writing of this paper; a two and one-half year old girl admitted with intermittent abdominal pains which she had had for twenty-four hours. She had vomited shortly before admission. She had not passed any blood by rectum and had not had a bowel movement for twenty-four hours. She was known to eat anything she could get into her mouth including plaster from the walls. On admission her temperature was normal and she did not appear to be seriously ill. She had occasional abdominal pains but not the spasmodic severe pains characteristic of intussusception. Several examiners felt an abdominal mass soon after admission but were later unable to verify this. The laboratory reported 300 mg. of albumin in her urine. X-ray of the abdomen suggested a mass in the right lower quadrant and multiple flecks of calcific density. Intravenous pyelogram and barium enema were considered normal. Admission differential diagnosis included intussusception but the normal barium enema, albuminuria, history of eating foreign material and the fact that she did not appear acutely ill made the admitting diagnosis of poisoning seem more likely at the time. A repeat urinalysis was normal but she became more acutely ill. Intussusception seemed a more likely diagnosis. At operation she had an ileo-ileal intussusception with the leading point an inverted Meckel's diverticulum. The involved ileum was impossible to reduce and was gangrenous. This was re-

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sected and an end to end anastomosis carried out. Her post-operative course was uneventful. In retrospect the typical history of intermittent pain and a palpable mass were sufficient for diagnosis. The normal barium enema was not sufficient to rule out a diagnosis of intussusception or to prevent prompt surgery.

Taddeo and Janes have recently published a case of intussusception caused by an invaginated Meckel's diverticulum and summarized the literature on this subject. They emphasize that intussusception due to an invaginated Meckel's diverticulum usually causes sub-acute symptoms and melena is relatively rare.

In summarizing these nine cases of intussusception, five proven at surgery, there were no deaths and the diagnosis was made without barium enema in most cases. In no case was there any attempt to reduce the intussusception by barium enema. A history of typical intermittent abdominal pain was obtained in five cases; in two patients symptoms were relieved following enemas given at home. Melena occurred in seven, a mass was palpated abdominally or rectally in six. Three patients had a Meckel's diverticulum; in two this was the cause of the intussusception. Three patients had the intussusception reduced at surgery. The two patients requiring resection had symptoms which lasted longer than forty-eight hours.

REVIEW OF LITERATURE

Incidence. Over eighty per cent of all intussusceptions occur in children under two years of age. Most cases in children are ileo-colic in location.

Etiology. In ninety per cent of intussusceptions in children the cause is unknown although various theories have been proposed such as redundancy of the ileocecal valve and large lymph nodes of the terminal ileum. Of the ten per cent that have an obvious cause Meckel's diverticulum is the most common.

Signs and symptoms. The sudden onset of abdominal pain in a previously well child, the intermittent nature of this pain with periods of complete freedom from pain, and the presence of a palpable abdominal mass are almost pathognomonic of intussusception. Abdominal pain is present eighty to ninety per cent of the time, vomiting seventy per cent of the time; blood is passed by rectum in about sixty per cent of the cases. Blood may not be passed for twenty-four to forty-eight hours after the onset of pain and is more likely to be delayed or absent if the intussusception involves the small bowel. A mass is palpable seventy-five per cent of the time.

X-rays. A flat plate of the abdomen may show small bowel obstruction. Barium enema usually confirms an intussusception involving the colon. However, in the majority of typical cases X-rays for diagnostic purposes

CASE	AGE	SEX	DURATION OF ABDOMINAL PAIN	VOMITING	MELENA	MASS	X-RAY	OPERATIVE FINDINGS	PROCEDURE
1.	4 mo.	M	3 days	Yes	Yes	Abdominal	0	Ileo-colic Intussusception	Resection and Anastomosis
2.	6 mo.	M	24 hrs.	Yes	Yes	Rectal	0	Edema ? Reduced	
3.	9 mo.	M	?	Yes	Yes	None	? Small Bowel Ob- struction	Went to another hospital	
4.	10 mo.	M	?	No	Yes	None	0	Improved No Surgery	
5.	11 mo.	F	12 hrs.	No	Yes	Rectal	Normal	Coli-colic Intussusception	Reduced
6.	18 mo.	F	36 hrs.	No	Yes	None	Barium Intussus- ception	Ileo-ileo-colic Intussusception with Meckel's Diverticulum	Reduced Appendix and Meckel's Excised
7.	2 yrs.	M	3 days	No	Yes	Abdominal	Barium Intussus- ception	Ileo-ileo-colic Intussusception with Meckel's Diverticulum	Reduced Appendectomy
8.	2 yrs.	F	?	Yes	No	Abdominal	0	Improved No Surgery	
9.	2½ yrs.	F	3 days	Yes	No	Abdominal	Barium Normal	Ileo-ileal Intussusception with Meckel's Diverticulum	Resection and Anastomosis

are unnecessary and should not be allowed to delay surgery. A normal X-ray, including barium study, should not influence the surgeon against the diagnosis of intussusception.

Treatment. The importance of early treatment is emphasized by the rise in mortality and the increased number of cases requiring resection when definitive treatment is delayed. In 1948 and again in 1953 Ravitch and associates reported impressive results by treating intussusception with barium enema. They recommend such precautions as using no more than three to three and one-half feet of pressure, no strenuous manipulation of the abdomen, the presence of a surgeon during fluoroscopy, and surgery immediately afterward if there is any doubt as to complete and permanent reduction. Even if surgery is required later it is better to have first reduced part of the intussusception by hydraulic pressure than by the more traumatic squeezing at surgery. Their criteria for adequate reduction include clinical improvement and disappearance of the mass, adequate visualization of the cecum and, at times, the terminal ileum with barium and the passage of charcoal by enema six hours after instilling it in the stomach. It is important that barium studies be immediately available; surgery is then undertaken if reduction is incomplete, if there is any doubt, if the criteria are not fulfilled, if an anatomical cause has been demonstrated (e.g. polyp) or in recurrence.

Many authors recommend surgery in all cases if only to identify and remove a possible leading point such as polyp or Meckel's diverticulum. Resection is necessary if it can not be reduced or is gangrenous. Gross favors Mikulicz exteriorization. Swensen recently reported using an aseptic single layer end to end anastomosis. Authors differ as to whether or not further elective surgery, such as appendectomy, should be done at the same time. It would seem best to make no blanket rule but to evaluate each patient in terms of duration of symptoms, condition preoperatively and during the operation and to decide after reduction or resection of the intussusception whether or not further surgery should be done.

Prognosis. Mortality varies from five to fifteen per cent in most series whether treated by barium enema or

surgery, almost all deaths occurring in patients with symptoms lasting longer than forty-eight hours. Recurrences vary from one-half to five per cent, being possibly more frequent in those treated by barium enema.

SUMMARY

1. Nine children with the diagnosis of intussusception are presented including a case due to inverted Mickel's diverticulum.

2. The literature on intussusception in children is reviewed.

3. Intussusception in children must be treated early. Recurrent abdominal pains and an abdominal mass are the most important diagnostic findings. Barium enema as an emergency procedure as recommended by Ravitch would seem to be a safe and often adequate therapeutic procedure. If doubt exists about adequate reduction following barium enema or if Ravitch's criteria for reduction are not satisfied surgery should be performed at once.

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Highway Accidents

The Nation's Grave Peril *

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The human carnage which is sweeping across our nation as a result of automobile accidents is growing to an amazing proportion. With facts so startling we must stop to analyze the causes and try to find remedies.

While newer discoveries in the wonder mycin drugs are curing millions of people more rapidly, yet the loss of life and crippling effects of motor vehicle accidents on our nation's highways is the most barbaric manifestation of our civilized era. The brutal sacrifices of life and limb due to thoughtlessness and carelessness in driving automobiles on streets and highways kills on the average annually over 35,000 persons. In addition there are countless heartaches which must be experienced by those who are left without breadwinners for the family. Death alone is not the only calamity which may result in many auto accidents. It is the long loss of time to those who meet with non-fatal accidents. For instance in 1953 there were 1,350,000 non-fatal accidents with an aggregate loss of \$3,950,000,000 for that year. The physician is the one individual who is called to scenes of suffering which he must witness either in his office or at the hospital. On innumerable occasions he is rushed to emergencies where he has to administer hurriedly to mangled bodies pain reducing drugs that quiet the suffering. The doctor looks on helplessly and wonders when law and order will step in to decrease this waste of human life he so ardently strives to save. The family physician knows also what the aftermath of highway accidents creates. He has to treat those members of the family who were left without a father, a mother, or child. He knows and remembers the lessons of trying to act indifferently, and yet does not the physician recall the dramatic scenes he saw when he was rushed to the emergencies on the highways or when he was awakened in the early hours before dawn to step hurriedly into an operating room. This scene goes on all over the nation every day and every year.

Is it not possible for doctors to put their heads together and map out a plan of defense against an enemy of the people—death and crippling of human structures?

Surely this is no less difficult a task than attacking the menace of cancer, tuberculosis, cardiac disease or blindness. The deaths caused from cancer are no dif-

ferent than the death produced by an automobile crash. The family physician might not be visibly emotional but he has feelings like any other normal human and may suffer inwardly. He sacrifices more of his life so that his neighbors in each community can lead a happier life. The physician is called at all hours of the night and at anytime in the day to minister to the ailments the flesh is heir to. The automobile accident today is as commonplace as any sickness. Therefore, should not the doctor consider highway accidents a major disease? Does not the research physician spend endless days in a complicated laboratory looking for some drug that will help decrease the suffering of mankind? Yes, hundreds of scientists are spending the greatest productive part of their lives seeking ways and means of finding a cure for a baffling disease. How much time does the average physician spend in *trying* to *help* find *some* method to stop this insane highway killer? Most of these useless deaths are caused by innocent people who ordinarily are harmless, but behind the wheels of automobiles they are savage killers.

The problem of highway accidents is not only that of the doctor but also the state trooper, the safety highway engineer, the politician, the mayor, the city planners, the State Governor, the Congressman, the U. S. Senator and the President of the United States.

The doctor knows cancer is the fourth major cause of death statistically in our nation, but does he realize that fatalities caused by automobile accidents rank the sixth major cause of death in our national statistics? This being a fact is it not of sufficient importance to give causes of automobile accidents as much thought as is given to such diseases as cancer, tuberculosis, cardiac, kidney or gallbladder diseases?

Some of these figures may be interesting to doctors as a group. The records of the National Safety Council reveal that in rural areas and small cities, fatal auto accidents cause one-fourth of all deaths by motor vehicle accidents. One tenth of pedestrian deaths are children under thirteen years of age.

One out of every six highway accident is caused by bad road conditions during foggy, rainy or snowy weather. One fifth of the fatal accidents are due to defects in motor vehicles or buses.

Moreover, about one-sixth of the fatal accidents can be attributed to conditions which obscure the driver's vision and create dangers during snow, rain or sleet.

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**Founder and President of the American Association of Motor Vehicle Safety.

Bushes, shrubbery, trees, buildings, embankments and parked cars or trucks may create blind spots for the pedestrian or the driver. These *blind spots* produce innumerable fatal motor vehicle accidents. In addition, glare from sunlight during day driving or bright headlights when driving at night are also responsible for a great number of accidents.

The speed potential of the motor vehicle increases every year as the car salesman points to the speedometer. He emphasizes the maximum speed the moving vehicle can glide along even to 125 miles an hour. But why all this speed which is a greater killer than loaded rifles or revolvers placed in irresponsible hands? The greatest offender of fatal accidents is in the category of speeders, for after careful analysis of statistics, we note that in the year of 1950 there were 13,300 people killed as a result of speeding. Also 475,500 were injured as a result of speeding in 1953. 3,740 persons were killed while jaywalking during 1950. Drivers between the ages of 18 and 24 were involved in 24% of the total number of fatal accidents during 1950.

Some motorists can suffer from a heart attack and can die at the wheel while driving an automobile. It is essential to stress the need for periodic physical examination of all drivers, since once the driver gets a license, he never is re-examined again.

Appalling are these statistics, indeed, for about 900,000 people have lost their lives from the years 1915 to 1950 through fatal automobile accidents.

During the year 1953, the death toll from motor vehicle accidents aggregated to 38,300. This figure appears to be the highest except during the year 1941 when the mortality aggregated to 40,000. On the other hand, the number of non-fatal injuries sustained during the year 1950 total 1,799,800 as compared with non-fatal accidents of 1949 which were 1,564,000.

In what manner can physicians help decrease automobile accidents? This can be done by, first, including in his patient's history an inquiry as to whether or not *the individual drives an automobile*; second, ascertaining the type of automobile he drives; third, determining whether the patient has a condition such as advanced heart disease, coronary sclerosis, angina pectoris, essential hypertension, advanced visual deficiencies such as high myopia or hyperopia, advanced lateral sclerosis and multiple sclerosis, early cataract of one or both eyes, or if there are degenerative changes of one or both eyes due to a disease such as diabetic hemorrhagic retinitis or red and green color vision deficiencies. Usually there are changes in visual acuity and at the same time the drivers' perception may be defective without their knowledge. When accidents occur by the more experienced drivers, it is not infrequently caused by some physical defect in their visual judgment or their depth perception.

All of these patients should be advised that it is dangerous for them to drive an automobile while suffering from any one of these maladies. The physician

should instruct these patients that it is just as hazardous for them to drive a motor vehicle when they have hypertension, advanced cardiac disease, etc., as it is for them to climb a flight of stairs, run for a trolley or lift heavy weights.

Furthermore, the physician should instruct his patient not to drive with advanced visual disturbances and degenerative changes in his eyes.

The medical profession collectively can demonstrate to the proper State and Federal authorities, the necessity for uniform periodic mental and physical examinations of every driver every year. Also, doctors can materially help in preventing high toll of fatal and non-fatal accidents by following a similar plan as the author has here outlined.

Perhaps if most physicians in this country would take a more personal interest in this grave problem many causes of fatal automobile accidents might be eradicated.

We should help to encourage city, state and federal government agencies to study the flaws in traffic that we see in our daily rounds when making our calls.

Finally, each State should have Commissioners of "Motor Vehicle Safety" who will be responsible to the Governor of each State. These Safety Commissioners are to seek ways and means of preventing accidents by a scientific approach to a serious problem herein outlined. Also, the President of the U. S. might appoint a member of the Cabinet to act as a Federal Secretary of Motor Vehicle Safety.

Streets where children go to and from school are still not safe because of dangerous unprotected crossings. Thousands of children are still injured by autos. Up to recently states have given, by mail, licenses to incompetents for a fee, and without a physical examination.

Broken streets and pavements are frequent causes of accidents, and these streets should be inspected and repaired promptly.

Defective automobiles by the hundreds of thousands are on the city streets and highways which are a menace to safety and should be prohibited, if not repaired.

Also, drunken drivers are too easily freed, as there are no uniform methods of diagnosis regarding proof of drunkenness. Every State in our country should have uniformity in accurate diagnostic tests for proving drunken driving. Those who use sleeping pills in large doses may be involved in highway accidents. Poor judgment can be created by *sleeping pills*. The doctor should bear this in mind before prescribing barbiturate drugs.

Patients released from psychiatric institutions should NEVER BE GIVEN A LICENSE to operate a motor vehicle. Lists of these released mental patients should be reported to each individual State through a central Federal Clearing House. Perhaps their photographs and finger prints should be listed with Federal and State Bureaus.

In order to rule out criminals and mental defectives, from driving, each individual driver should have a

photograph on his license, for proper personal identification; this, in addition to the driver's physical description, will help to cut out undesirable drivers from the highways.

Intra-state uniformity in signals and traffic regulations will make driving simpler and safer.

Play streets should be set aside only for that purpose and NOT have a ten mile limit. Too many children are killed playing between parked cars. Play streets should not have parked cars.

Periodic brake and tire inspection under the auspices of each state and county will decrease crashes and fatal accidents on highways.

Millions of people driving automobiles today have never had a physical examination, nor has a proper eye examination been made. Why should not those who have never had physicals be checked? There are those who have special defective physical conditions who drive and should have their licenses temporarily or permanently taken away. Drivers who are diabetics should have certificates, issued by their physicians, stating that the patient is periodically examined for the malady.

The entire system of traffic regulations in this country is in parts antiquated since the speed of automobiles and the numbers of cars have been countlessly increased during the past fifteen or twenty years.

City planning of automobile safety generally, is under wrong supervision.

The present stupendous growth of the motor vehicular industry has become a direct challenge to the greatest minds of our country. For from 1895 when there were but 4 passenger cars registered, twenty-nine years later registrations of private cars grew to 17,439,701; and 17,808 buses as well as 2,483,215 trucks were recorded with the motor vehicular departments in U.S.A.

In 1951 the automobiles increased to 51,326,438; out of this number there were 143,000 buses and 8,657,931 trucks recorded in our country.

Moreover in 1921 the total vehicle miles traveled in U.S. aggregated to 56 billion 27 million; and in 1951 there were approximately 482,369,000,000 miles traveled in this country by automobiles including trucks and buses. In 1951 there were 64,443,781 drivers of motor vehicles registered in America.

Men must be trained in college to study the science of automobile safety. Only by corrective efforts not only of the police departments but by civic, educational and religious organizations can progress ever be made.

The family doctor may yet play an important part in a scientific approach to this problem. What must be done is to coordinate all the forces at our command to destroy the growing menace to our manpower and security of our nation.

Finally, if an armed enemy flew over our country and attacked us causing a loss of life amounting to thousands and injured over one million persons, would not *all of us* take up arms against the invading enemy?

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Across The Desk

A.M.A. Clinical Session in Boston November 29 to December 2, 1955

The annual A.M.A. Clinical Session in Boston last month drew a total registration of 8,637, including 3,779 physicians. This compared with a total Miami registration last year of 7,707, including 3,253 physicians.

Everybody was happy about the Boston meeting. The scientific program brought some fine comments

from many doctors. More than 100 physicians gave scientific papers or participated in panel discussions on subjects of interest to the general practitioner.

A report on the "Atoms for Peace" conference in Geneva, a clinic on poliomyelitis, and discussions on adolescent medicine, heart disease, psychotherapy by the family doctor, and care of the aged and chronically ill were some of the highlights of the ninth clinical meeting.

Actions of the A.M.A. House of Delegates at the Interim Meeting

The House of Delegates of the American Medical Association resolved:

- • • That the American Medical Association urge and support the creation of a well-qualified commission to make a thorough, objective, impartial study of Social Security.
- • • (OASI — OLD AGE AND SURVIVORS INSURANCE) That each State poll its members regarding their wishes about coverage under Social Security and transmit the results of the poll to the American Medical Association.
- • • (REPORT ON MEDICAL PRACTICES) That this committee be directed to utilize all possible means to stimulate the formation of a department of general practice in each medical school.
- • • Approve teaching programs which afford the medical student the opportunity for experience in the general practice of medicine.
- • • (This committee) use its full influence to discourage any arbitrary restrictions by hospitals against general practitioners as groups or as individuals.

- • • American Medical Association to discourage arbitrary restrictions by hospitals against general practitioners.
- • • Recommended that the Board of Trustees give consideration to a dues increase for all association members, and that this increase go to American Medical Education Foundation. (The membership of the American Medical Association increased by over 7,000 in the first six months of 1955.)

The Council on Medical Service of the American Medical Association recommends to the members of the Board of Trustees that:

- • • The Congress be urged to consider carefully and define clearly a national policy with respect to provision for medical care for dependents of armed service personnel.
- • • Any program devised for the care of dependents of military personnel be made contingent upon the adoption of a clear and understandable definition of what constitutes a dependent.
- • • That with respect to civilian personnel facilities,

Continued on page 20

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Across The Desk

Continued from page 17

medical care and hospitalization of dependents of service personnel be provided by civilian personnel and civilian facilities wherever possible.

• • • It is urged that all Medical Societies take such steps as are necessary to assure that medical services

will be available to dependents of service men regardless of their ability to pay.

• • • That all State associations assist their component societies in developing the above recommendations.

What Is Being Done in Maine?

Some of the doctors drafted into the armed services spend a large percentage of their time taking care of dependents of members of the armed forces. In a constructive effort to remedy this situation, a proposal has been made to the Department of Defense that dependents of servicemen be cared for by civilian doctors under a Health Insurance Program. This could be set up similar to the Veterans Home Care Program and administered by Blue Cross and Blue Shield. The suggestion is a good one. Whether or not it will be

taken by the Department of Defense depends largely upon how it is received by the doctors themselves. If it is endorsed and carried out in the light of the above resolutions, the Department of Defense has little alternative but to accept it and to reduce the medical personnel requirements of the Doctor Draft Law. This is a brief outline of a program which could be an administrative monster. Your comments will be received with interest.

A Political Gimmick

A new method for spending time and money and accomplishing exactly nothing, has come (Across this Desk).

The American Research Foundation of Princeton, New Jersey, is currently attempting to get a sample of medical opinion as to whether or not President Eisenhower is physically able to run for another term.

Many of the nation's cardiologists received an air mail special delivery questionnaire which asked their opinion on two points—

1. Do you think a man who has suffered a heart

attack can be regarded as physically able to serve a term as President?

2. Based on what you have read about the nature of the President's illness, and assuming a normal convalescence in the next few months, do you think Mr. Eisenhower can be regarded physically able to serve a second term?

The whole scheme is absurd — an opinion without more firsthand factual information is not worth the paper it is written on. To tabulate the results of such a questionnaire is to compound the original error.

If all the questionnaires were thrown away — the American Research Foundation would be the only loser.

Billions for Health

The Bangor Daily News of 12 July 1955, published an editorial titled "How About One Billion for Health." On 14 July 1955, Senator Frederick G. Payne, urged Congress to consider it and read the entire editorial into the Congressional Record.

According to the Washington Report on the Medical Sciences of January 2, 1956, Senator Margaret Chase Smith "was a member of the Appropriations Subcommittee that considered Public Health Service budget but she did not attend its hearings. It looks like she will take a more active part this year."

"Since Congress customarily raises budget estimates

for medical research, probability is that NIH appropriation will be well in excess of \$126 million. Strong Senate support is expected to prevail over opposition that will be raised in House against such large increases. Latest recruit to ranks of members demanding more Federal money for aid to medical education and research is Senator Margaret Chase Smith (R., Me.). She says she will ask, for each of next five years, \$200 million for NIH, \$30 million to subsidize research construction and \$70 million to medical schools for improvement and expansion of facilities."

Gifts to Medicine

The Commonwealth Fund announced on eve of Boston convention of the American Medical Association gifts totalling \$7,150,000 to ten medical schools. Later in the month, 290 million was given by the Ford Foundation to hospitals and medical schools.

Impressive as this is, it should be noted that it amounts to only about one-seventh of the money being spent this year by the Federal government on health and medical programs.

Congress Convened January 3 with Many Health Bills Pending

The second session of the 84th Congress opened Tuesday (January 3) in an election-charged year that promises considerable activity in the health field. While neither of the major committees concerned with medical bills (House Interstate and Senate Labor Committees) has yet scheduled hearings, other committees have been busy. The Senate Judiciary subcommittee headed by Senator Price Daniel (D., Tex.), is about ready to make a preliminary report on the narcotics problem. A House Ways and Means subcommittee in charge of Rep. Hale Boggs (D., La.) also is working on a parallel report, covering barbiturates and possible control legislation.

Of all committees touching on the health field, none will be busier than the House and Senate appropriations subcommittees which handle the annual budget requests of the Department of Health, Education and Welfare. HEW Secretary Folsom already has announced the administration will ask for a 25 to 30% increase in money for medical research, with most of the increase going to non-federal projects. This proposal is certain to receive strong bipartisan support.

On some other proposals, bipartisanship might evaporate as both parties seek credit for popular legislation. Included could be federal construction aid to medical schools and to private research labs. The administration contemplates introduction of a bill combining both features.

Other health proposals pending: *Salk Vaccine Grants* — States now are drawing on a \$30 million federal appropriation for the purchase of Salk poliomyelitis vaccine. This authorization expires February 15. The administration will ask for an extension and for another appropriation . . . *Jenkins-Keogh* — This bill, authorizing deferment of income tax on money paid into a retirement fund, was ordered reported favorably by the House Ways and Means Committee on the final day of last session, after it was combined with other tax amendments . . . *Cash Payments for Disability* — This House-passed bill is pending before the Senate Finance Committee. Chairman Byrd has said that extensive hearings will be held on this proposal (a part of H. R. 7225), but not until several other highly controversial issues have been disposed of . . . *Military Status for Public Health Service* — This bill passed the Senate and now is pending before the House Interstate and Foreign Commerce Committee; it has the support of the AMA . . . *Federal Workers' Health Insurance* — The administration expects to have a revised bill ready shortly, and hopes for action in 1956 . . . *Medical Care Program for Military Dependents* — Defense Department is working with the insurance industry on an indemnity plan, and at the same time with Blue Cross and Blue Shield on service plans. As a result of these discussions, the department hopes to have all the necessary information ready by the time hearings start.

Writing to Congress

An enclosure in the November issue of the Medical Society of North Carolina's PR Bulletin is titled "Ten Good Tips on Writing Your Congressmen." Among hints to physicians are be businesslike, address the congressmen with respect, be specific, factual and reason-

able and "once you've told him where you stand, ask him where he stands." The tips are accompanied by a list of the state's congressional delegation. They serve to remind physicians of their responsibility in making the profession's viewpoint known on medical matters.

Wagner-Murray-Dingell Goal Adopted by AFL-CIO

As indicated by your correspondent last week, the huge labor body that is AFL-CIO plans to crusade with renewed vigor for the national health reforms for which they campaigned as separate organizations. This is made clear in the printed proceedings of the convention in New York two weeks ago, copies of which have just become available. Compulsory national health insurance, Federal operational grants to medical and dental schools, loans and grants to nonprofit, group practice clinics — these are among objectives listed in adopted resolutions. What the merged federation has done, in brief, is reaffirm its militant support of the multi-purpose Wagner-Murray-Dingell bill of the 1940's.

In addition, AFL-CIO is united behind permanent and

total disability insurance, government-paid hospitalization for OASI beneficiaries, appropriation of larger sums to promote occupational health and safety, and continuation of governmental hospitalization services to merchant seamen.

Convention resolution on health programs observes that "in the past" the Committee for the Nation's Health has served organized labor as an information clearing house. Then it recommends that this function be "considered afresh." From which one may deduce the CNH is soon to be replaced by an agency which will work more aggressively for attainment of organized labor's ambitious national health goals.

Chamber Directors Back Hoover Medical Recommendations

The Hoover Commission recommendations on federal medical services now have the full support of the United

States Chamber of Commerce. The medical recommendations are among a group of nine Hoover recom-

recommendations given the indorsement of the Chamber's Board of directors.

In backing the medical and other recommendations, the Chamber will: (a) offer its assistance to Congressional committees studying the Hoover bills, (b) work for establishment of Congressional steering committees to direct, and expedite legislation, and (c) refer Congressional committees to the "highly qualified trade and professional associations and citizens groups" which are in a position to study technical questions.

More important of the Hoover medical recommenda-

tions would: 1. Establish a Federal Health Council. 2. Provide contributory health insurance for military dependents and for personnel and dependents of the Coast Guard, Public Health Service and Coast and Geodetic Survey. 3. Regionalize military medical services, with one service made responsible for each region. 4. Tighten up ability-to-pay requirements in VA and codify VA laws and regulations. 5. Change the Armed Forces Medical Library into a National Medical Library. 6. Virtually wipe out the present Public Health Service hospital and medical care program.

23,299 Degrees Given in '55 in Healing Sciences

This country's colleges and universities gave total of 354,445 earned degrees in academic year 1954-55, according to compilation made by Office of Education. Leading fields of study, in number of degrees awarded, were: social sciences, 77,378; education, 53,254; healing arts and medical sciences, 23,299; engineering, 22,589.

Under healing arts and medical sciences, there were

7,056 MD degrees; 3,099 in dentistry; 5,240 in nursing; 3,396 in pharmacy; 855 in veterinary medicine; 524 in optometry; 460 in osteopathy; 361 in dental science; 140 in public health, and 2,168 in miscellaneous branches. Five in every 100 MD's went to women, only one in every 100 DDS's. Ratios of women were 2 per cent in osteopathy, 1 per cent in optometry.

Soviet Medical Training Outlined in New Study

In a book published by the National Science Foundation, Soviet medical training is shown to fall well below U. S. standards. Nicholas DeWitt, writing on "Soviet Professional Manpower," estimates some 75 Russian medical institutes train medical specialists in three main fields: clinical medicine, pediatrics and public health. He says that medical training in the U.S.S.R. appears to be less extensive than ours in general sciences, chemistry, biochemistry and biology.

"Our program of medical instruction in clinical subjects is probably based on more modern methods and is perhaps somewhat more extensive, especially if the internship requirement is considered, a requirement which does not exist in Soviet medical education," the author says. "Medical practice in Soviet

programs lasts only about 16 weeks during the entire six years of training and is certainly quite inadequate for a physician's training."

His summary: "... In view of all the other reservations, the Soviet professional certification as physician appears to be somewhat below our M.D. degree." He estimates about 19% of Soviet physicians were members of the Communist Party and adds: "It is surprising that ... after years of Communist rule in Russia only about one-third of all persons in the professions had been recruited into the party." The book was published in cooperation with the National Academy of Sciences and National Research Council and is the product of more than two years of research. The book is available at the Government Printing Office at \$1.25.

Air Force Announces Medical Student Subsidy Plan

The U. S. Air Force is preparing a medical student training program in approved medical schools. Starting with the 1956-57 school year, junior and senior medical students will be eligible for appointments as second lieutenants in the Air Force Reserve. During the two years they will receive the pay and allowances of that grade (between \$325 and \$350 a month) which may be used to pay tuition and other school costs.

Upon graduation, the students will be eligible for appointments as first lieutenants in the Air Force medical corps. For each year of active duty pay as a sec-

ond lieutenant while in medical school, a man will obligate himself for an additional year of service beyond the regular draft. Accordingly, the doctor with an obligation under the draft who received active duty pay in both junior and senior years will be obligated for four years.

Both the Army and Navy have similar programs but they are limited to seniors. The latest development is expected to lessen congressional activity on the military medical scholarships bill which encountered some opposition in the last session.

Defense Department Directs Closer Medical Network

A Defense Department directive issued last week calls upon Army, Navy, and Air Force to increase joint utilization of health and medical facilities and services.

Although joint staffing of military hospitals is not prescribed, interchange of "specially trained personnel" is recommended. One phase of the medical network

policy is that Medical and Dental Reserve Corps personnel shall be used without regard to service affiliation on teams conducting physical examinations for various types of reserve units.

Coordinated planning for new construction and alteration of hospitals; inter-service availability of dental care; exchange of special equipment, and free dissemination

of information on postgraduate instruction — these are among the other activities with which directive is concerned. Its objective: "To attain the most efficient and economical operation of the three military medical departments consistent with the attainment of their primary mission."

New Statistics Depict Health Insurance Rise

In 1954, insurance dollars paid 43.8 per cent of the country's hospital bill but only 21.2 per cent of the population's combined hospitalization and medical care expenses, estimated at \$9,688,000,000. For the first time, hospital insurance enrollees hit 9-digit mark (101 million) and totals of persons covered for surgical and medical services reached new highs of 85.9 million and 47.2 million, respectively. Blue Cross income was 29 per cent of total of all types of insurance plans but its benefit payments comprised 33 per cent. These are a few of the facts and figures on health insurance in 1954

contained in report appearing in December issue of *Social Security Bulletin*.

Latest information on the cross-country poll by Blue Cross-Blue Shield indicates the majority of local plans are hopeful of guaranteeing the type of coverage the Defense Department is demanding for military dependents . . . An encouraging development in the social security picture is the decision of the insurance industry, as announced by the Life Insurance Association in New York, to conduct an intensive study of the program.

Correspondence

To the Editor of The Journal of the
Maine Medical Association

October 14, 1955

Dear Editor,

Among the letters that I have received in my two-year-old project of getting the doctors *themselves* to do what they can to get Congress to give them Social Security, is this letter received from Massachusetts October 5.

What Massachusetts is doing, can, I hope be done by other medical societies. Is it not possible to do this in your state? If not by questionnaire sent out by the Medical Society of the State, then by polling your members through publishing the request for the individual member's opinion. If requested to *write* in, they will

do so, I am sure. *Too often, we neglect* to find out *what the opinion is, of the majority*, and then gripe about what our officers or editors do. *Each man's opinion is important.*

What others have done, we can do.

Please let me know what your magazine is doing to get the opinion of the doctors themselves, across to the Senators N.S. before this question is voted on. After that, the opinion of the majority will do no good.

(The opinion of the majority, not the opinion of an official minority, should prevail in a matter so personal as this.)

ADRIAN H. SCOLTEN, M.D.

These Are YOUR Dates

Maine Medical Association Meetings

APRIL 8, 1956

Interim Meeting of the
House of Delegates

Penobscot Hotel

Bangor, Maine



JUNE 24, 25, 26, 1956

103rd Annual Session

The Samoset

Rockland, Maine

STATE OF MAINE

Department of Health and Welfare

DEAN FISHER, M.D., *Commissioner*
State House, Augusta, Maine

Cleft Palate Evaluation Clinic
ELLA LANGER, M.D., *Director*
Division of Crippled Children's Services
ALONZO H. GARCELON, D.D.S., *Director*
Division of Dental Health

In January 1953, the Division of Crippled Children's Services and the Division of Dental Health worked out a new program; the Cleft Palate Evaluation Clinic. The Clinic is held every three months at the India Street Dispensary, Portland, Maine. No case is referred directly to the Clinic. A limited number of cases (usually six to eight) which have been screened by the Crippled Children's Services for this purpose are invited to the Clinic for examination and evaluation. Because of the complexities inherent in the management of the cleft palate, the program lends itself admirably to the team approach wherein the findings and recommended plans for treatment of each of the specialists comprising the team are correlated with the whole to provide a complete program of long-term rehabilitation for the individual case.

The clinic team consists of a pediatrician, plastic surgeon, dentist with special training in prosthodontics, orthodontist, otologist and psychiatrist who meet with the director of the Division of Crippled Children's Ser-

vices and staff consisting of medical social consultant, nutritionist, speech therapist, psychologist, dental hygienist and several public health nurses.

Prior to the Clinic, complete x-rays of the teeth and an evaluation by the Department psychiatrist are provided each case — as is a nutrition history. Complete dental corrective care, including topical fluoride application, orthodontia, and, if indicated, obturators, are also provided by the Services after investigation by a medical social consultant. Unless the family physician wishes to follow the case or it is under the care of a private physician, cases are followed by the Crippled Children's Services to the age of 21 years. These treatment services include plastic surgery, speech therapy, T & A's, and such other specialist treatment as may be recommended for correction of ear conditions, nutritional problems, and the like.

At the present time, 320 cleft palate cases are registered with the Crippled Children's Services for such care.

AID TO DISABLED PROGRAM

Relationship of Physicians and Hospitals to the Medical Review Board

ALTA ASHLEY, M.D.

In the Spring of 1955, Maine joined the ranks of most of the states and territories by providing aid to the totally and permanently disabled. Many of you have been approached by persons seeking such aid. At the present writing, approximately 500 cases have been reviewed, 400 accepted, and some 50 deferred pending further information. A handful, unfortunately, have died before their cases were completed.

Because the program has been far reaching, dipping into every nook and cranny in the State and has involved a majority of the practicing physicians and hospitals serving the State, a note of explanation of the program seems advisable at this time.

Aid is granted to indigent persons, between the ages of 18 and 65, who have been adjudged both permanently and totally disabled. A medical review board consisting of a physician, a medical social worker, and

consultants when necessary, reviews the cases to determine eligibility on the basis of permanence of physical impairment and totality of disability. This decision is made from reports submitted by a social worker and a physician (or hospital) of the applicant's choice.

A complete physical examination and medical history is requested on all applicants. Good medical histories and accurate, concise presentation of abnormal physical findings are essential to the best interest of the applicant, since the review team has to rely completely on the report submitted in arriving at its decision on eligibility of the applicant or need for further diagnostic work-up.

Another reason for this is that in the experience of multi-phasic clinics unsuspected abnormalities in early, remedial states are frequently found in apparently well individuals or in parts of the body in which patients

have had no suspicion of disease. Some applicants may never have had a complete physical examination in their lives and, therefore, may harbor early disease which would otherwise go undetected until rehabilitation and physical restoration are impossible.

All effort is directed toward prevention of disability, physical restoration and rehabilitation. For this reason, consultation and hospitalization for diagnostic work-up are often recommended and evaluation requested. Whenever possible, arrangements are made by the social worker for consultation and hospitalization for

diagnostic work-up to be done by the local physician. This is done to preserve the doctor-patient relationship of private practice.

The program is indeed one of aid toward rehabilitation and prevention of further handicap as well as financial assistance. Although the program has been set up to take care of the indigent, anyone who believes himself eligible may make application, and diagnostic procedures will be carried out as necessary. It is further hoped that through this program, a better understanding will be had of medical services existing in the State.

Maine's TB Sanatoria

By legislative action, effective August 20, 1955, all administrative control of the three tuberculosis sanatoria in the State was transferred from the Department of Institutional Service to the Department of Health and Welfare. The change was made in the interests of a coordinated tuberculosis control program within the State and the three institutions will henceforth be a part of the Department's Division of Tuberculosis Control, a division of the Bureau of Health.

Dean H. Fisher, M.D., Commissioner, has stated that for the present, the three institutions which are located at Fairfield, Hebron and Presque Isle will continue to function as in the past. All applications and correspondence regarding the three sanatoria should be addressed to the Division of Tuberculosis Control, Department of Health and Welfare, State House, Augusta, Maine.

DEPARTMENT OF HEALTH AND WELFARE AND DEPARTMENT OF EDUCATION

Division of Public Health Nursing
and
Vocational Rehabilitation

Announcement of Rehabilitation Institute

Dates: February 8 and 9, 1956

Time: 10 A.M. - 5 P.M. each day

Place: House of Representatives, State House, Augusta

The Institute is for nursing personnel, industrial personnel, physical therapists, and others interested in the problem of rehabilitating the disabled person.

We are fortunate to have outstanding leaders from recognized Rehabilitation programs participating.

Especially interesting will be the actual demonstration of the use of helpful equipment for amputees, paraplegics and others.

A display of this equipment, such as special wheel chairs and household gadgets will be explained by trained personnel.

Reference books, pamphlets and booklets will be available.

Films will be shown during the meetings as well as during a special film showing.



ANSWERING QUESTIONS



Emergency Medical Benefits

I think, first of all, it is necessary that all doctors understand Blue Shield is not trying to tell them what a medical emergency is; however, it is necessary for Blue Shield to define the type of medical emergency that it is its intention to cover under the Blue Shield Contract. This is done in Article I (12) of the Blue Shield Contract "BSB," where it states:

"Emergency Medical Services means Medical Services requiring in any day extraordinarily prolonged or frequent visits by a licensed physician to a hospitalized bed patient in those cases of illness, injury or conditions, which, at the time such Emergency Medical Services are rendered, place the life of the patient in immediate danger and cause his name to be placed on the critical list at the hospital. Determination of whether Medical Services are Emergency Medical Services, within this definition, shall be at the discretion of A.H.S."

I would like to make three comments on this definition. First, I realize the fact that whether a person's name is or is not on the critical list of the hospital does not always mean too much in itself. Some hospitals are without such a list. Other lists vary in their definitions. It is hoped that in the near future, it will be possible to standardize the definition and have such a list in all hospitals.

Second, I would like to point out that the last sentence of the definition has been misinterpreted by many. All Emergency Medical Benefit claims are reviewed and passed on by a committee of three doctors appointed by the Health Insurance Committee of the Maine Medical Association. A.H.S. accepts or disallows such claims as directed by this committee and our Medical Director.

Third, why is such a definition necessary? Why not let the individual doctor determine what is or is not an emergency? It is an accepted insurance principle that there must exist laws or mathematical probability

which are applicable to the insured service, so that the insurer may be able to determine as accurately as possible in advance just how often the event insured against will occur. By defining what we will cover, we are much better able to compute the number of times the service we are insuring will occur. If this were left up to the individual doctor, you would have nearly as many definitions as you have doctors because each would have his own definition. This would make it impossible to insure.

To file a claim for this additional benefit, it is necessary to attach the completed special application to the regular claim form. If your supply of Emergency Medical Benefit applications has been exhausted, it may be replenished by written request to the Blue Shield office. The allowable benefit may not exceed \$25.00 during any one period of hospital confinement, and may occur at any time the patient is entitled to the basic Medical Service benefits including the 3-day deductible period.

Examples of the type of cases for which benefits have been allowed are diabetic coma, coronary and severe hemorrhage. In all these cases the doctors were required, on each day, to make extraordinarily prolonged or frequent visits to the patient and the patient's life was in immediate danger in the minds of the reviewing committee.

Any questions on this benefit will be welcomed.

To date, Blue Shield has 620 medical doctors participating under the new Blue Shield Contract; there are 56 doctors who have not yet indicated whether they are going to participate. A new list of participating physicians is being made up with a deadline of January 10. If you have not already indicated your status under the contract, please do so as soon as possible so that you may be included on the new list if you wish to participate.

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Secretary, Raymond L. Torrey, M.D., Searsport

WASHINGTON

President, Edwin B. Johnston, M.D., St. Stephen, N. B.
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, Louis C. Lesieur, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

FRANKLIN

December 20, 1955

At a meeting of the Franklin County Medical Society on December 20, 1955 at Farmington, Maine, the following officers were elected for 1956.

President, D. Wade Marsters, M.D., Strong
Vice President, Hays G. Bowne, M.D., Farmington
Secretary-Treasurer, Paul E. Floyd, M.D., Farmington
Delegate to the Maine Medical Association, Philip B. Chase, M.D., Farmington. Alternate, Currier C. Weymouth, M.D., Farmington

Board of Censors: Harry Brinkman, M.D., Farmington (1 year), James W. Reed, M.D., Farmington (2 years), Wallace H. Duffy, M.D., Farmington (3 years)

Daniel F. Hanley, M.D., Executive Director of the Maine Medical Association, was present and showed film Operation Ivy, and the Medic film Flash of Darkness. Dr. Hanley also discussed the treatment of mass casualties and outlined the physician procurement program.

The meeting was preceded by a very enjoyable Tasting Party, which was arranged by members of the Auxiliary for the benefit of the American Medical Education Foundation.

PAUL E. FLOYD, M.D.
Secretary

HANCOCK

December 14, 1955

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine on December 14, 1955. There were fifteen members present. The meeting was opened by the president, Dr. Dwight Cameron.

Officers for the year 1956 were elected at follows:

President, Charles F. Larrabee, M.D., Bar Harbor
Vice President, John T. Connell, M.D., Blue Hill
Secretary-Treasurer, Arthur M. Joost, Jr., M.D., Bucksport
Delegates to the Maine Medical Association, James H. Crowe, M.D., Ellsworth, and M. A. Torrey, M.D., Ellsworth.
Alternates, Philip L. Gray, M.D., Blue Hill, and Edward Thegen, M.D., Bucksport.

Censor, Herbert T. Wilbur, M.D., Southwest Harbor.

A motion was passed that resolutions be drawn up on the death of Hiram A. Holt, M.D., of Winter Harbor, Maine.

ARTHUR M. JOOST, JR., M.D.
Secretary

NEW MEMBERS

ANDROSCOGGIN

Paul J. LaFlamme, M.D., 78 Pine Street, Lewiston
Lawrence A. Nadeau, M.D., 92 Pine Street, Lewiston
Ralph M. Timberlake, Jr., M.D., Central Maine General Hospital, Lewiston

AROOSTOOK

George F. Mock, M.D., Presque Isle General Hospital, Presque Isle
Henry F. Kramer, Jr., M.D., 18 Sweden Street, Caribou
Andrew M. Szendey, M.D., 140 Main Street, Fort Kent

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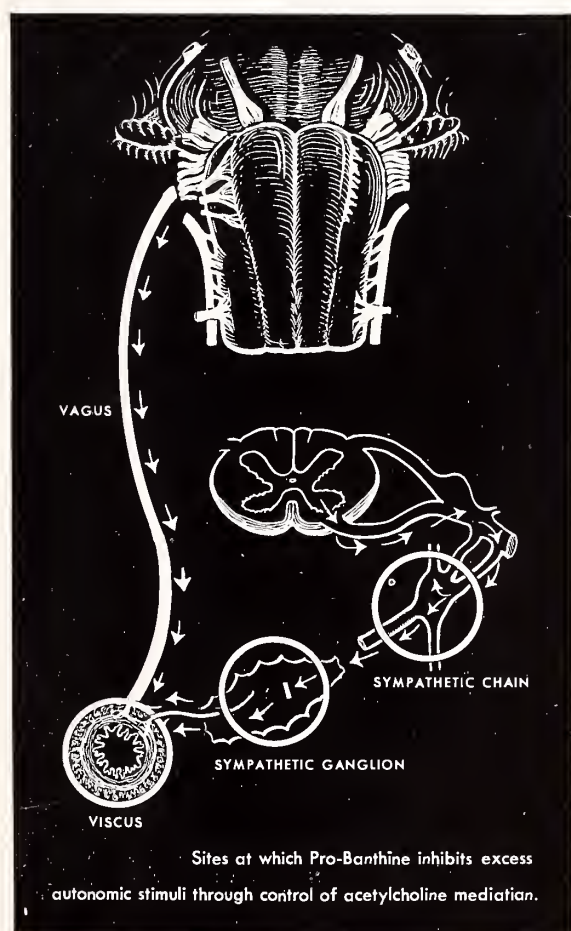
Roback and Beal² found that Pro-Banthine orally was an "inhibitor of spontaneous and histamine-stimulated gastric secretion" which "resulted in marked and prolonged inhibition of the motility of the stomach, jejunum, and colon. . . ."

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In Roback and Beal's² series "Side effects were almost entirely absent in single doses of 30 or 40 mg. . . ."

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For the average patient one tablet of Pro-Banthine (15 mg.) with each meal and two tablets (30 mg.) at bedtime will be adequate. G. D. Searle & Co., Research in the Service of Medicine.



1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: *Gastroenterology* 25:416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: *Gastroenterology* 25:24 (Sept.) 1953.

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 Joseph R. Crawford, M.D., 105 Water Street, Augusta
 Jacob M. Jackler, M.D., 14 Gilman Street, Waterville
 Francis J. O'Connor, M.D., Augusta General Hospital, Augusta
 Paul H. Pfeiffer, M.D., 16 Gilman Street, Waterville
 John J. Reel, M.D., Richmond

LINCOLN-SAGADAHOC

Hamdi Akar, M.D., Bath
 George Bostwick, M.D.

PENOBSCOT

Irvin E. Hamlin, M.D., Main Street, East Millinocket
 Gardner N. Moulton, M.D., 5 Grove Street, Bangor
 John Van Duyn, M.D., 205 French Street, Bangor
 Edward C. Porter, M.D., 489 State Street, Bangor
 Thomas H. Palmer, Jr., M.D., 224 State Street, Bangor
 Robert F. Gloor, M.D., Box 197, Corinna

Peter H. Mason, M.D., Millinocket Community Hospital, Millinocket

YORK

Ruth E. Endicott, M.D., 16 Main Street, Ogunquit
 James S. Johnston, M.D., York Harbor

DECEASED

CUMBERLAND

Harold R. Webb, M.D., Brunswick, October 28, 1955

HANCOCK

Hiram A. Holt, M.D., Winter Harbor, December 9, 1955

KENNEBEC

Chalmers G. Farrell, M.D., 2 Church Street, Gardiner

PENOBSCOT

Walter J. Hammond, M.D., Bangor, August 1, 1955

News and Notices

MAINE MEDICAL CENTER

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 Portland, Maine

All Physicians are cordially invited to attend

POSTGRADUATE EDUCATIONAL PROGRAM IN ANESTHESIOLOGY*

Conducted by John R. Lincoln, M.D.

In the House Officers Quarters from 4:00 to 5:00 p.m.
 on the following dates:

January 20

Useful nerve blocks

February 3

Opiates and analgesics, and antagonists

February 17

Preoperative evaluation and medication

March 2

Antonomic nervous system (with motion pictures)

March 16

Analeptics and vasopressors

April 6

Hypotensive drugs

April 20

The muscle relaxants

May 4

Fire and explosion in hospitals

May 18

Oxygen therapy and resuscitation (with motion pictures)

COURSE IN

CLINICAL ELECTROCARDIOGRAPHY*

Assembly Room 7:30 p.m. Each Wednesday

January 25, 1956

The Normal Electrocardiogram — Ralf Martin, M.D.

February 1, 1956

Ventricular Hypertrophy and Conduction Disturbances
 — Ralf Martin, M.D.

February 8, 1956

The Electrocardiogram in Myocardial Injury, Ischemia,
 Angina; Exercise Tests — Edward A. Greco, M.D.

February 15, 1956

The Electrocardiogram in Myocardial Infarction
 — Harold L. Osher, M.D.

February 22, 1956

The Electrocardiogram in Hypertension, Pericarditis,
 Congenital Heart Disease, Cor Pulmonale
 — Eugene H. Drake, M.D.

February 29, 1956

Electrocardiographic Effects of Drugs, Electrolyte Im-
 balance, Metabolic Diseases — Ralf Martin, M.D.

March 7, 1956

Arrhythmias — Eugene H. Drake, M.D.

March 14, 1956

The Electrocardiogram in Differential Diagnosis
 — Harold L. Osher, M.D.

COURSE IN RADIOLOGY**

... highlighting important aspects of roentgen diagnosis and
 radiation therapy with emphasis on clinical correlation

Conducted by

John F. Gibbons, M.D., Irving L. Selva, M.D.

Arthur A. Nichols, M.D.

From 5 to 6 p.m. as follows:

*Approved for credit by the American Academy of General Practice under category No. 1 as set up by the Committee on Education.

January 27

House Officers Quarters — Genito-Urinary Tract

February 10

Alida Leese Classroom — Obstetrics and Allied Fields

February 24

House Officers Quarters — Skull

March 9

Alida Leese Classroom — Skull

March 23

House Officers Quarters — Cardiovascular Disease

April 13

Alida Leese Classroom — Fractures

April 27

House Officers Quarters — Bone Tumors

May 11

Alida Leese Classroom — The Spine

May 25

House Officers Quarters — Joint Disease

June 8

Alida Leese Classroom — Metabolic Bone Disease

* Approved for credit by the American Academy of General Practice.

COURSE IN DISORDERS OF METABOLISM*

1. DIAGNOSIS AND TREATMENT OF THYROID DISEASE.
Conducted by Stanley E. Herrick, Jr., M.D.
Assembly Room, Wednesday, 21 March, 1956, at 7:30 P.M.
2. GOUT.
CALCIUM AND PHOSPHORUS METABOLISM.
Conducted by Philip P. Thompson, Jr., M.D.
Assembly Room, Wednesday, 28 March, 1956, at 7:30 P.M.
3. MODERN CONCEPTS OF DIABETIC THERAPY.
Conducted by Elton R. Blaisdell, M.D.
Assembly Room, Wednesday, 4 April, 1956, at 7:30 P.M.
4. STEROID THERAPY.
Conducted by Daniel P. Storer, M.D.
Assembly Room, Wednesday, 11 April, 1956, at 7:30 P.M.

DEPARTMENT OF HEALTH AND WELFARE

Division of Maternal and Child Health

(Including Services for Crippled Children)

Clinic Schedule 1956

ORTHOPEDIC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL

9:00 a.m.: Jan. 9, Feb. 13, March 12, April 9, May 14.

LEWISTON — CENTRAL MAINE GENERAL HOSPITAL

9:00 a.m.: Jan. 20, Feb. 17, March 16, April 13, May 18.

RUMFORD — COMMUNITY HOSPITAL

1:30 p.m.: March 21.

WATERVILLE — THAYER HOSPITAL

1:30 p.m.: Feb. 23.

ROCKLAND — KNOX COUNTY HOSPITAL

1:30 p.m.: Feb. 16, May 17.

MACHIAS — NORMAL SCHOOL

1:30 p.m.: Jan. 4, April 4.

PRESQUE ISLE — NORTHERN MAINE SANATORIUM

9:00 a.m. and 12:30 p.m.: Jan. 10, March 14, May 8.

HOULTON — AROOSTOOK GENERAL HOSPITAL

9:00 a.m.: March 13.

FORT KENT — PEOPLES BENEVOLENT HOSPITAL

10:00 a.m.: Jan. 11, May 9.

*BANGOR — EASTERN MAINE GENERAL HOSPITAL

1:00 p.m.: Jan. 26, March 22, May 24.

AUGUSTA — AUGUSTA GENERAL HOSPITAL

1:00 p.m.: April 26.

CARDIAC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL

9:00 a.m.: Will be held every Friday with the exception of holidays.

BANGOR — EASTERN MAINE GENERAL HOSPITAL

9:00 a.m.: Jan. 13-27, Feb. 10-24, March 9-23, April 13-27, May 11-25.

*Several of the Pediatric Clinics, and also Bangor CC Clinics, will be two-session clinics.

CLEFT PALATE EVALUATION CLINICS

PORTLAND — CITY DISPENSARY, 65 India Street

10:00 a.m.: Feb. 14, May 15.

PEDIATRIC CLINICS

*BANGOR — EASTERN MAINE GENERAL HOSPITAL

1:30 p.m.: Jan. 27, Feb. 24, March 23, April 27, May 25.

*FORT KENT — PEOPLES BENEVOLENT HOSPITAL

10:00 a.m.: March 21.

*PRESQUE ISLE — NORTHERN MAINE SANATORIUM

1:30 p.m.: Jan. 25, May 23.

*WATERVILLE — THAYER HOSPITAL

1:30 p.m.: Jan. 3, Feb. 7, March 6, April 3, May 1.

BY APPOINTMENT ONLY

STATE OF MAINE

BOARD OF REGISTRATION OF MEDICINE

ADAM P. LEIGHTON, M.D., *Secretary*
192 State Street, Portland, Maine

List of Physicians Licensed to Practice Medicine and Surgery in the State of Maine November 9, 1955

THROUGH EXAMINATION

Carolina I. Campomanes, M.D. — Memorial Center, 444 East 68th Street, New York 21, N. Y.

Cahid Corbacioglu, M.D. — Cleveland Clinic Hospital, 2050 East 93rd Street, Cleveland 6, Ohio.

Continued on page 33

Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

TUBERCULOSIS—FUNDAMENTAL QUESTIONS STILL UNANSWERED

The following is from a monograph by E. M. Medlar, M.D., which was published as a supplement to the March 1955, issue of *THE AMERICAN REVIEW OF TUBERCULOSIS AND PULMONARY DISEASES*. This monograph is a summary of Dr. Medlar's life-long study of the dynamics of tuberculous disease. For the practicing physician and the public health worker his conclusions are of such importance that with Dr. Medlar's permission they have been taken out of context to be presented to you. Those interested in the medical and pathological studies from which these conclusions are drawn are referred to the original work.

FLOYD FELDMANN, M.D., *Medical Director*
NATIONAL TUBERCULOSIS ASSOCIATION

THERAPY—Long observation has proved that bed rest, collapse of the lung, and chemotherapy, wisely used, help to reduce the mortality rate and to restore the majority of tuberculous patients to a state of apparent health. Nevertheless, the pathologic evidence is overwhelming that the disease commonly remains in a suppressed unhealed state even in persons who present the picture of health.

EDUCATION—A better control of tuberculosis would be possible if the dynamics of the pathologic process were properly presented to medical students, who are the practicing physicians of tomorrow. In most instances, the first responsible person to have an opportunity to recognize a case of tuberculosis is the practicing physician. At this time the fate of many tuberculous patients is determined.

The teaching of the epidemiology of tuberculosis would be improved if basic information about the pathogenesis of the disease were included. It is interesting to show the decline in the mortality rate from tuberculosis during the past fifty years but this does not indicate the major hazard which revolves about the surviving tuberculous persons who harbor smoldering unhealed disease that only too often flares into activity. Not infrequently a tuberculous person who has had stationary pulmonary shadows for many years, if thoroughly investigated bacteriologically, will be found to be shedding tubercle bacilli. Persons with disease of this nature can be considered as chronic carriers. It is probable that they are the source from which a continuing annual crop of new patients acquire the disease. Too often they are not recognized.

DECLINE IN DEATH RATE—It is of much greater importance to obtain accurate data on morbidity and relapse rates than to reiterate that the mortality from tuberculosis is declining. Deaths from tuberculosis now are most numerous among white males more than forty years of age. To explain this phenomenon, it has been proposed that these males are a vestige of the high incidence of tuberculous infection which existed thirty to forty years ago. Necropsies on persons more than forty years old who died from pulmonary tuberculosis can be separated into a group in which the lesions clearly indicate that a chronic disease of many years' duration was present, and one in which no such evidence was found. Progressive reinfection pulmonary tuberculosis is a reality and tuberculosis can be acquired at any age. There is no justification for complacency with regard to tuberculosis in this age group.

Tuberculin surveys have shown that only a small percentage of those who become reactors to tuberculin develop progressive pulmonary tuberculosis. Considerable time may elapse between the two events. From this it would seem that the incubation period, the lapse of time between the acquiring of the infection and the clinical manifestation, would be most unpredictable in tuberculosis. The emphasis upon chest roentgenograms for individuals and for entire communities has at times obscured the fact that a single roentgenographic survey of a community cannot predict the future problem of tuberculosis in the community, any more than a single chest roentgenogram of an individual can guarantee the future possibility

of serious pulmonary tuberculosis in that person. These problems are related inherently to the dynamics of the disease.

Pulmonary tuberculosis is an endemic disease and, since it is air-borne, it can be considered as a herd disease. This endemic disease will persist, even if the mortality rate becomes negligible, unless some way is found to detect and to segregate these persons who have tuberculosis with an open cavity. Many such individuals are beyond middle age. The socio-economic problem that the disease creates is not generally appreciated. On the social side, the problem is one of wrecked lives and broken homes. The economic phase of the problem manifests itself in the inability of many tuberculous persons to compete successfully on a job with healthy persons; in restrictive policies of employers, and in public health laws which forbid a person with sputum positive for tubercle bacilli to work in several categories of employment. A consideration of the economic problems created by tuberculosis should cause no satisfaction with our progress in solving them.

BCG—A spectacular attempt to eradicate tuberculosis has been undertaken during the past decade by prophylactic vaccination with BCG. While such vaccination confers a degree of protection, this protection falls short of being completely effective. Prophylactic vaccination well may lessen the occurrence of the generalized disease which is more frequently encountered in a progressive primary infection than in a progressive reinfection. It is doubtful that any type of vaccination can eliminate the problem of pulmonary tuberculosis.

CHEMOTHERAPY—There have been some unwarranted and too optimistic assumptions relative to chemotherapy in tuberculosis and, a rash of ill-advised publicity. No one need question the beneficial effects of chemotherapy during its administration, and yet one may seriously question the long-range effect on the "curing" of the disease.

The publicity given to "miracle" drugs plus the developing tendency to treat patients at home and on ambulatory basis are greatly complicating the management of tuberculosis. Whether the present trend is wise remains to be proved. The problem of tuberculosis is by no means near solution. Relapses still occur subsequent to the withdrawal of chemotherapy. This fact should engender an attitude of caution.

SURGERY—The reasons for favoring surgical resections of residual tuberculous disease are: evidence from necropsy studies is convincing that progressive tuberculosis is frequently not a generalized infection; that pulmonary lymph node tuberculosis in adults usually is an unimportant feature; and that often the pulmonary disease is limited to a relatively small area of lung tissue. Resection of the pulmonary disease offers, at this time, the best chance of eradicating the dangerous residual pathology. Chest surgery in tuberculosis should be given a thorough, intelligent, and fair trial. The place for surgery in tuberculosis will take considerable time to determine.

UNANSWERED QUESTIONS—What is the nature of the chemical process that induces necrosis? Why do some necrotic lesions undergo liquefaction and slough fairly promptly, while others do so after long delay and still others never do? Why, in many instances, do these bacilli fail to grow on culture media and to produce progressive disease in experimental animals? Why are some portions of the lung parenchyma more "vulnerable" than others? It will be necessary to obtain answers to at least some of these questions before one may talk about the eradication of tuberculosis.

The problem of tuberculosis is still immense and already has consumed large amounts of human energy and resources. If no more than a truce could be negotiated with this microscopic, parasitic, vegetable cell, eternal vigilance would be required lest the uneasy truce be broken.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

NEWS AND NOTICES

Continued from page 31

- Brian C. F. Dalton, M.D. — Holmes Street, Halifax, Mass.
Vasilios Drossopoulos, M.D. — Medical Center, Jersey City, N. J.
Silvano G. Macchiaroli, M.D. — The Springfield Hospital, Springfield, Mass.
George F. Monahan, M.D. — 10 Gerry Avenue, South Portland, Maine.
Agostino Natale, M.D. — The Springfield Hospital, Springfield, Mass.
Richard D. Price, M.D. — 8 Verta Drive, Caribou, Maine.
George Scaravelli, M.D. — 1358 Edgewood Avenue, Trenton, N. J.
Frank S. Schreder, M.D. — c/o Kilian Uebel, 114 40/198 Street, St. Albans, L. I., N. Y.
Raphael F. Turgeon, M.D. — 16 Hancock Street, Rochester, N. H.
George Vouvalis, M.D. — 3813-25 W. Washington Boulevard, Chicago 24, Ill.

LICENSED JULY 13, 1955 BUT NOT REPORTED

- Bernard N. Gotlib, M.D. — 132 Forest Avenue, Bangor, Maine.
Louis A. Trottier, M.D. — Springvale, Maine.

THROUGH RECIPROCITY

- Robert S. Carson, M.D. — 24½ McLellan Street, Brunswick, Maine.
Manu Chatterjee, M.D. — 47 McKeen Drive, Brunswick, Maine.
Deane L. Hutchins, M.D. — Worcester City Hospital, Worcester, Mass.
Richard K. Jennings, M.D. — Rhode Island Hospital, Providence, R. I.
Merrill J. King, Jr., M.D. — 243 Charles Street, Boston, Mass. (Later Rockland, Maine.)
Otho F. Knowles, Jr., M.D. — 24 Charles Street, Portland, Maine.
Kenneth E. Leigh, M.D. — Goodall Hospital, Sanford, Maine.
James S. McCarthy, M.D. — Blue Hill, Maine.
Harold W. Stevens, M.D. — Beach Street, Saco, Maine.
Thomas D. Trainer, M.D. — Maine General Hospital, Portland, Maine.
Joseph T. Wearn, M.D. — 2065 Adelbert Road, Cleveland 6, Ohio.
David S. Wyman, M.D. — Maine General Hospital, Portland, Maine.

American College of Surgeons

Four-Day Meeting in Philadelphia, February 13-16, 1956

More than 3,000 surgeons, surgical specialists, nurses, and other medical personnel from Canada and the United States are expected to attend an intensive, four-day Sectional Meeting of the American College of Surgeons in Philadelphia, Pa., February 13 through 16, at The Bellevue-Stratford. Dr. Calvin M. Smyth, Jr., Philadelphia, is Chairman of the Local Advisory Committee on Arrangements.

In length and scope this meeting will approach that of the annual Clinical Congress. Sessions in general surgery and the specialties, hospital clinics, surgical Forum research reports, cine clinic films, technical exhibits, and hospital field trips will be included in the program. A special four-day program for nurses will be a highly important part of the entire program.

All of Philadelphia's medical schools and many local surgical specialty organizations are cooperating in planning this meeting. Philadelphia's teaching hospitals are combining to offer clinical sessions at Children's Hospital, Hospital and Graduate Hospital of the University of Pennsylvania, Hahne-

WE CORDIALLY INVITE YOUR INQUIRY for application for membership which affords protection against loss of income from accident and sickness (accidental death, too) as well as benefits for hospital expenses for you and all your eligible dependents.



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mann Hospital, Jefferson Medical College Hospital, Pennsylvania Hospital, Philadelphia General Hospital, Presbyterian Hospital, Temple University Hospital, and Wills Eye Hospital.

Registration for the meeting will open at 3 p.m. on Sunday, February 12. Hotel accommodations may be requested from

the Philadelphia Convention and Visitors Bureau, 17th and Sansom Streets.

Information about this or other Sectional Meetings may be addressed to: Dr. H. Prather Saunders, Associate Director, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

HARVARD UNIVERSITY

School of Public Health

Scholarship Program for 1956-1957

Scholarships for the Academic Year 1956-57 will be granted to individuals of high professional promise in awards ranging from part tuition to tuition plus a stipend, according to the qualifications and financial needs of the applicants. The Scholarship Funds are limited and are primarily intended for citizens of the United States. In general, preference will be given to applicants under 35 years of age.

Scholarship applicants must be eligible for admission to the School as a candidate for one of the following degrees: Master of Public Health, Doctor of Public Health, Master of Science in Hygiene, Doctor of Science in Hygiene, Master of Industrial Health.

A Catalogue of the School, Admission and Scholarship applications, and further information may be obtained by writing the Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts.

Scholarship applicants must return completed admission and

scholarship applications to the Harvard School of Public Health by March 1, 1956. Scholarship awards will be announced May 1, 1956. Under exceptional circumstances awards will be made at other times.

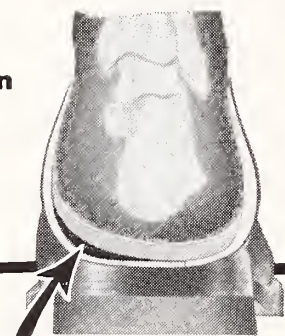
Regional Meeting of the International College of Surgeons

The Mid-Atlantic Section of the International College of Surgeons is holding a regional meeting at the Greenbrier Hotel, White Sulphur Springs, West Virginia, February 13-14-15.

The program will include professional papers on each of these days from 9:00 A.M. to 1:00 P.M., leaving the afternoons free for entertainment purposes. There will also be one evening meeting, probably a dinner meeting, with an outstanding national speaker. The Greenbrier will be glad to furnish any information in regard to reservations.

ROSS T. MCINTIRE, M.D.
Executive Director

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Maine Medical Association



The Journal of the Maine Medical Association

Volume Forty-Seven

Brunswick, Maine, February, 1956

No. 2

Auditory Rehabilitation for the Deafened Child

ELIZABETH O. KOONS, M.S.*†

FREDERICK T. HILL, M.D.‡

While many cases of hearing impairment of the conductive type respond to measures aimed at removal or remedy of the underlying cause, deafness, once established, may be considered as irreversible. When faced with this condition we are limited to four courses of therapy: Prevention, Circumvention, Amplification, and Education. Early diagnosis, followed by indicated therapeutic measures, may prevent further loss and, at times, permit restoration to a level of social adequacy. In cases of clinical otosclerosis, presenting acceptable criteria for operation, fenestration may effect remarkable improvement. But for many, including the perceptive and the severe conductive types, the only recourse is amplification and/or education. This is particularly so with the younger age group. It is in this group, the young children, that auditory rehabilitation is most effective and offers the greatest benefit.

Auditory rehabilitation includes two of the above-mentioned modalities; for, even with the severely deafened, amplification is employed as an adjunct to speech reading if there be any residual hearing. And careful

testing, especially after the young child has had some experience in group training, quite frequently will reveal certain islands of hearing in what at first was considered a non-functioning cochlea. Even if this cannot be raised to anything approaching a usable threshold the use of a hearing aid has been found to be of considerable value in the training of these deafened youngsters by making possible an awareness of sound and rhythm.

Incidentally the term "speech reading" today is preferred to the older and perhaps more generally used designation of lip-reading. As only about one third of speech sounds are visible on the lips and some, such as sh, ch, and j are homophonics (have identical visible movements), the child must learn to fill in the gaps. Speech reading is not only lip reading but includes recognition of facial expression and interpretation of conversational trends.

Early recognition of hearing deficiency is all-important as the optimum time to start training is at three years. Usually parents become aware of some abnormality without undue delay. The infant "doesn't seem to respond", or in the child whose hearing has become damaged by some disease process, "he doesn't hear as

*Thayer Hospital, Waterville, Maine.

†Instructor, Auditory Rehabilitation.

‡Medical Director.

he used to". This may bring the child to the attention of the family doctor, the pediatrician, or the visiting, or school nurse. These people have the opportunity of guiding the child to the indicated rehabilitary program. Their awareness of this responsibility may make all the difference between a permanently handicapped individual and one who, through proper attention, becomes an educated, economically self-sufficient person in later adult life.

Every child suspected of having any hearing impairment should have the benefit of careful and thorough otological study, and as early as possible. It has been our sad experience to see not a few young persons of 16 to 18 years of age who had practically total nerve deafness, who had no intelligible speech and, of course, had had no schooling. Not only were these objects of pity, they were burdens on Society, never capable of being self-supporting. Early recognition followed by rehabilitation would have made such a difference.

It is encouraging to note an increasing awareness of this problem, not only on the part of physicians but with public health and school nurses as well as teachers in our public schools. For the past two years we have conducted short courses in Audiology for nurses and teachers as a part of the Adult Education program at Colby College. This course will be continued, as we feel it cannot help but result in earlier recognition and definitive rehabilitation of these children.

Our program of auditory rehabilitation at the Thayer Hospital was started eight years ago with a class of three: a three year old with complete absence of usable hearing due to meningitis, a seven year old hard of hearing child, and another hard of hearing girl who was sixteen. This sixteen year old was then in an ungraded class at school because of lack of speech. This class has gradually increased until now we have 85 youngsters enrolled, many coming from distant parts of the State.

While many of these children are referred by otologists, the majority came through the Ear, Nose and Throat Clinic of the hospital. They will have had complete otological study as well as pediatric and, whenever indicated, psychiatric examination. We endeavor to ascertain the child's potential as well as the degree of handicap. Audiometric studies include speech and pure-tone audiograms, tuning fork tests, etc. except in the very young. Below the age of three this is rarely possible but simple measures and careful observation of the child's reactions generally are sufficient to demonstrate deafness and often to give a clue to some residual hearing if one takes the necessary time. We have not employed the Psycho-Galvanic Skin Reaction Test which is particularly applicable to infants, as rarely do we see children under two years. The use of simple noisemaking toys, cymbal, drum, whistle, etc., by failure to evoke head-turning or a palpal reflex, may tell the story.

For the child between two and three we have found the use of tuning forks of value in indicating residual

hearing in the child obviously deafened. This is done before any examination of the ears other than the use of the noisemaking toys. It is essential that the child not be frightened but thoroughly at ease. The parents and the physician are seated and the child is allowed to toddle about the room. Several tuning forks are seen laying on a table. The physician takes them up, one at a time, sets them in vibration, and then holds them at the ears of the parents, his own, and the child's. The parents are instructed to smile as they hear the tones. This is repeated until we run through the several forks. Then the physician leaves the room but remains where he can observe the child through a crack in the door. The parents seemingly pay no attention to the child. If he, on his own initiative, goes over to the table, picks up a fork and tries to strike it and holds it to his ear, we have a fairly good idea that he has some residual hearing, especially if he evinces pleasure by smiling.*

Once having determined the child is deaf, arrangements are made for him to come with his mother to our class. These deaf children must be able to express their thoughts and desires, to understand the thoughts of those about them and to develop their abilities to read and write. The earlier they can start their training, the greater will be their chance for success.

The interest span of small children is limited and we try to keep the lesson as casual as possible. We also try, as often as we can, to teach the children in group situations as there is great value in group instruction using children of about the same age level.

After we have established, through play, a feeling of rapport between the three year olds and the teacher, we start them on the fundamentals of speech and speech-reading. As their knowledge increases and as they realize that they are gaining power through expression, we go in to formal speech lessons and gradually include acoustic lessons, silent reading, number concepts and writing. By the time he is old enough for school, the little deaf child has more formal knowledge than many hearing children his own age.

Our aim is to have the deaf child enter his local school at the same time as his contemporaries do. Obviously this cannot be attained through one lesson a week, so, we follow the Tracy Clinic technique with the mothers attending the lessons with their children and then repeating the work in daily lessons at home.

Some mothers work harder with their children than others do, some are better teachers than others. The children with residual hearing usually get along faster than those who have none. All these factors and more contribute to the varied progress. We are convinced, however, that the ambulatory, out-patient type of training has many advantages, provided the parents are intelligent and cooperative and the problem of distance is not unsurmountable. At this early age, especially, there is no substitute for mother love and care.

*I am indebted to Dr. Stacy Guild of Johns Hopkins for this test which many times has proven of value.

Language and speech, of course, are the greatest difficulties and we work at them constantly. Sometimes the children need extra help in other subjects such as arithmetic or social studies and we lend a helping hand there too.

The children come to the clinic for weekly lessons until they are through the third grade. After that they come only once a month or even less often as their needs demand. We have learned that by the time the children have gotten successfully through the second and third grades, they want to be on their own and we are as most pleased to encourage this attitude.

This clinic has had one unexpected and yet extremely valuable by-product stemming from the use of volun-

teer workers from the Women's Division of Colby College. These young ladies became greatly interested in the work. Already four of them have gone on to graduate work in this form of special education, becoming full-fledged teachers of the Deaf so greatly needed in our Country today.

All of this has been done on the proverbial shoestring for our financial backing is indeed limited. The size of the class itself is a handicap in that a tremendous burden is placed upon the teacher but we are offering services to handicapped children that they would not otherwise obtain. And the dividends realized in the progress made by these youngsters are indeed most satisfying.

The Use of Radioisotopes in Hyperthyroidism

IRVING I. GOODOF, M.D.*

In 1938 publications of Hertz⁽¹⁾ and his associates opened up a new field in the investigation of thyroid disease. The years that have passed since that time have brought many refinements of techniques as well as the development of new ones. Many of these are now of great value in both the diagnosis and treatment of diseases of the thyroid as well as in pure investigative projects.

Until the advent of radioactive iodine, our means for the laboratory detection and confirmation of diseases of the thyroid consisted primarily of the measurement of the basal metabolic rate and possibly a determination of the blood cholesterol level. The former procedure was difficult to control in that the availability of a patient in the true basal state is an extreme rarity and, assuming that the machine functions as it should, the interpretation of the results may be sufficiently variable as to make them of very little use. The mere fact that the various manufacturers of the equipment for determination of the basal metabolic rate can not agree upon a suitable formula for calculation of the results indicates the general lack of reliability of this procedure. The determination of cholesterol in the blood until relatively recent years was one that could be made to fit almost any picture since the chemical methods for determination of this substance provided very little assurance of a result which could be duplicated, as well as yielding so wide a range of normals that very few people would fall outside of that range with any condition. Admittedly, the improvements in this chemical determination as carried out by the Sperry-Schoenheimer

technique or the modification of Zak, produced much more reliable results, which, now that they are more reliable, seem to offer even less help in the diagnosis of thyroid disease than before. Several other chemical determinations have been proposed in years past, but they are of even less use than those mentioned above.

The availability of radioactive iodine with proper instrumentation for its measurement offers a valuable opportunity for the improvement of the management of thyroid patients. The use of this material depends primarily on two features. The first is the natural avidity of the thyroid gland for iodine. The second is the fact that radioactive iodine decays by emitting beta rays which have relatively little penetrating power and therefore are confined reasonably well within the issue which accepts it.

The diagnosis of thyroid disease using radioactive iodine originated with the radioactive iodine uptake determination. This procedure involves the administration of a known tracer dose of radio-active iodine to the patient, generally by mouth, followed by the measurement of the amount of radioactivity in the thyroid gland at an appropriate period of time following the administration of the dose. Since it has been shown by many workers that the uptake of radioiodine in euthyroid patients is from 20 to 55 per cent in most laboratories, it should then follow that a level above 55 per cent may indicate hyperthyroidism and one below 20 per cent, hypothyroidism. The procedure is simple requiring only a few minutes of the patient's time. It does away entirely with the need for the basal state, for fasting, and for so many of the other inconveniences including that of arriving at the hospital bright and

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early in the morning to be followed by a short nap before a determination can be made.

Further study, however, demonstrated that, using the standard normal figures, there is an error of approximately 7 per cent, in that a certain number of hyperthyroid patients are classified as euthyroid and a certain number of euthyroid patients are classified as hyperthyroid in the 55 to 60 per cent uptake range. Accordingly, many institutions instituted the procedure of chemical determination of the protein-bound iodine level in order to further classify these patients more accurately. This is a complicated chemical procedure not particularly suited to all laboratories and very easily interfered with by extraneous factors such as previous treatment of the patient with iodine or iodized compounds as well as certain other drugs which would apparently have no relationship to iodine.

Newburger and his associates⁽²⁾ then suggested the use of the radioiodine blood level and radioactive protein-bound iodine determination as a satisfactory means of improving the accuracy of differentiation of thyroid patients. This procedure involves the collection of blood 72 hours after the administration of the original tracer dose of radio-iodine. This is then measured for radioactivity in a well-counter type of apparatus and a simple precipitation and washing procedure then yields the protein-bound iodine which can be measured in the same way. By the use of this procedure, the range of error is markedly diminished, only 1.6 per cent of all patients then being improperly classified.

By means of these procedures, then, it should certainly be possible to arrive at a correct diagnosis in a much greater percentage of patients than is possible by the use of the older methods and at a cost not significantly different from that commonly associated with the basal metabolic rate determination. It is my feeling that eventually this procedure will largely supplant the use of the older diagnostic tests for these diseases.

Treatment of patients with hyperthyroidism by non-surgical means is of relatively recent development. The anti-thyroid drugs, only a few years old, have done an admirable job of maintaining many hyperthyroid patients without surgery. The number of toxic reactions to these drugs is not great but is significant, and there are certain patients who show no response to such medication and require other means of therapy. For these, until recently, only surgery remained. With the advent of radioiodine, however, patients who were not suited for surgery were treated with doses of this material calculated to effectively irradiate the thyroid tissue to the point where its function would be cut down to normal or below. By study of numerous patients with varying doses, a means of calculating the required amount of radioiodine was worked out which would result in the euthyroid state in a large percentage of patients, with a small number developing hypothyroidism or myxedema and a small number requiring

additional therapy at a later date to bring them down to the euthyroid state. This means of therapy has been used in large numbers of patients in many clinics. The thyroid service of the Massachusetts General Hospital has recently reported one of the largest series showing excellent results with steady improvement in the results as experience was developed⁽³⁾.

In some series, the use of radioiodine in the treatment of hyperthyroidism has been restricted as far as possible to patients over 40 years of age because of the fear of possible induction of malignant disease in younger people over a long period of time. There has also been a feeling against the use of this material in pregnant women beyond the fourth month of gestation because of the fact that the fetal thyroid begins to absorb iodine at this stage and the possibility of damage to this fetal structure must be kept in mind. It is also the policy in some places not to treat solitary toxic nodules because of the feeling that they may be malignant and that surgery is the treatment of choice. However, in these same series there have been many exceptions to these restrictions and, as yet, I can find no report of untoward results.

It is worthy of note that patients with hyperthyroidism and severe cardiac disease may be treated successfully with radioactive iodine. The treatment is certainly atraumatic and with the improvement in thyroid function, the cardiac status is usually improved. The next step, of course, was the use of radioiodine for the production of hypothyroidism in people with severe intractable angina pectoris as well as in some patients with repeated myocardial infarction. The decrease in the level of thyroid activity below the normal is apparently helpful in producing relief and some degree of improvement in patients of this type.

SUMMARY

The availability and use of radio-active iodine provides a most valuable diagnostic aid in the study of patients with thyroid disease. The convenience and simplicity of the procedure and its possible level of accuracy suggests that this may eventually supplant the older diagnostic methods in many areas. The use of this material in the treatment of hyperthyroidism is convenient, relatively inexpensive and highly effective.

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The Genesis of Pain in the Musculoskeletal System

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There is no problem facing the physician which presents more frustrations, more challenge, than does the attempt to relieve pain in the musculoskeletal system. The more of these cases that I see, the more I am convinced that there is a segmental distribution of pain, as for example, in the so-called shoulder arm syndrome; although the identification of local pathological conditions causing the symptoms usually is a very difficult one. One may be confronted with a problem in which the entire neck, the arm, including the fingers, all are involved. Similar situations may involve the lumbar region, the hip and the lower extremities.

While one may be inclined to attribute this condition to disorders of the intervertebral joints or the intervertebral discs, the somatic nervous system, the muscles and their fascia or upon the osseous system, it is doubtful if this is justified. Few of these patients whom I see give any history of trauma. One is therefore led to believe that some situation must exist to upset the equilibrium of the local musculoskeletal part concerned. By far the greater number of the patients I have seen with these complaints are women of 35 years or over or men about the age of 40 or 45. It seems significant then, that some change must be taking place somewhere, acting as a trigger mechanism and giving rise to painful stimuli which cause a segmental distribution of pain with its sequelae. It would appear that these painful stimuli are lacking in the younger person, in contrast to the older age groups. It is my feeling that the trigger mechanism may be any stimulus rising from any joint of the vertebral column, any vessel, any somatic nerve, any sympathetic nerve component, any muscle or fascia, in fact, any one or combination of the constituents of the musculoskeletal system. Probably the most common is the stimulus arising from insult to one or more of the multiple apophyseal joints of the cervical region or of the lumbar region, usually from a postural deviation. This could result from an increase in cervical lordosis brought on for example by eye strain, faulty posture in reading, faulty posture in sleeping, etc. The most common cause for this very simple orthopedic finding is found in the lumbar region in the older age groups in which relaxation of the anterior abdominal muscles is present, resulting in an anterior rotation of the pelvis with a secondary increased lumbar lordosis, putting a strain on one or more of the lumbar apophyseal joints.

It must be remembered that any joint has an optimum range of motion. When this optimum is exceeded, whether it be in flexion, extension, side bend, or what-not, obviously painful stimuli are developed which may result in an upset of the normal physiological equilibrium of that part. This is generally accompanied by spasm of the posterior spinal group of muscles, either in the cervical or lumbar region. Muscle spasm itself is a pain producing mechanism, which, added to the original stimulus, produces in turn a vicious cycle of pain. It is well known that mental tension plays a part in these problems. It has been stated that tension in the neck muscles is a vestige of the "head-up alertness" seen in quadrupeds in times of stress. One has but to observe wild animals in their native state to appreciate this "head-up alertness" to danger. Man is not beset with these problems, but in him, physical dangers are replaced by abstract fears and by the stress of every day living. Cervical discs, irritation from compression in the brachial plexus, irritation due to the presence of cervical rib or other abnormalities are of less importance in consideration of these problems.

Oscillometric readings taken routinely on these patients show definite changes in the painful site. Generally one side is involved at first, but without proper treatment there is a spread to the opposite extremity. There is very often a definite decrease in temperature, as much as 5 degrees in one extremity as compared with the other. Similarly, in problems affecting the lumbar region, the pelvic girdle and the lower extremities, one repeatedly sees an oscillometric diminution of blood supply to the affected extremity with a lowering in surface temperature. Many of these patients present sciatic complications of varying degree. Rarely do we find the specific lesion, such as an acromioclavicular disorder or a bursitis, but rather one in which the entire neck and shoulder girdle, together with the arm constituents are involved. Many of these women are in the menopause. It is my belief that the percentage of these patients in whom the intervertebral disc can be specifically blamed is very low indeed and that most of these patients can be best managed by conduction block rather than surgical intervention. This implies that some change in physiologic balance, whether it be vascular or neurogenic, must have taken place to disturb the normal relationship and that this change, whatever it be, defies definite localization.

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What might the sequelae be then in the presence of such a condition? Any distortion of pain sensitive structures by alteration of normal arterio-venous relationship due to vasodilatation, to increased blood volume, to hypertension, to hypotension or tissue ischemia, is capable of producing pain. This is the current concept in the mechanism of migraine and it would seem reasonable therefore, that this mechanism may operate in any segment of the body. One cannot help but be impressed by the role of the often disregarded sympathetic system in this condition. Parts of the body most frequently involved in this condition are the neck, the upper and lower extremities, the lumbo-pelvic region and very rarely the trunk. This suggests that the areas involved are those supplied by the two cord bulbar enlargements; namely, the cervical enlargement and the lumbar enlargement. These enlargements supply the structures which have arisen from the limb bud. The upper extremities are innervated generally by cervical 5, 6, 7, 8 and thoracic 1 and possibly a small portion of thoracic 2; the lower extremities by lumbar 1, 2, 3, 4, 5, sacral 1, 2, and 3.

The heart and upper portions of the great vessels are innervated by the stellate ganglion which sympathetically innervates also the upper extremities and portions of the neck and head. Portions of the large bowel, the rectum and the urogenital system have lumbar and sacral sympathetic innervation. Careful differential diagnosis is required to rule out pelvic implications in the patients with pain in the buttocks, lower extremities or lower back region. Review of embryology demonstrates a definite development correlation between the arteries and the nerves in the extremities. This helps to explain why pain produces vascular spasm and why the skin temperature is reduced.

In the lumbar portion of the cord, because the lumbar ganglia are placed farther from the intervertebral foramina than they are in the thoracic region, the branches making connection with the spinal nerves are longer. These connecting branches accompany the lumbar arteries and cross the bodies of the vertebrae. Some branches of these lumbar ganglia join the plexus on the aorta, others descend to form the hypogastric plexus. Several filaments are also distributed to the various vertebrae and their ligaments. Functionally, the sympathetic system, as related to the lumbar spine, is a continuation downward of the fibers of the thoracic sympathetic which includes the vasoconstrictors and secretory nerves of the lower extremities, and the vasoconstrictor fibers of the abdominal vessels as well. The sciatic artery is the larger of the two terminal branches of the anterior division of the internal iliac and is distributed chiefly to the muscles on the back of the pelvis, it descends on the anterior surface of the piriformis muscle with the sacral plexus of nerves and exits through the lower part of the great sacral-sciatic foramen in company with the pudic artery and the sciatic nerve. It continues its course downward into the vessel which

accompanies the small sciatic nerve along the back of the spine, supplying the integuments and anastomosing with superficial branches of the perforating artery. This latter anatomic fact is of great importance in the production of sciatic pain. The sciatic artery accompanies the small sciatic nerve, involvement of which is generally considered as the cause of so-called sciatic neuritis. The branches of the sciatic artery concerned in this pain mechanism are the muscular branches which supply the external rotator muscles, the muscles which arise from the ischial tuberosity, and the coccygeal branch which is distributed mainly to the gluteus maximus, together with an anastomotic branch which supplies the external rotator muscle and anastomoses with the branches of the gluteal artery. Here then, one may explain the mechanism by which spasm of this vessel may be a very important etiological factor in the production of sciatic pain.

The hypogastric plexus which innervates the hypogastric artery is a continuation of the inferior mesenteric ganglion, lying essentially at the bifurcation of the aorta. This in turn is a continuation of the superior mesenteric ganglion lying at a higher level of the abdominal aorta. The hypogastric plexus then is an assemblage of nerves which supply the viscera of the pelvis and in addition innervates vessels which are distributed to the hip joints, the posterior muscles and the sciatic artery itself. It is a continuation of the prolongations of the aortic plexuses and receives branches from the lumbar ganglion, forming a flat plexiform mass in front of the lumbar 5th vertebra. As this is continued downward on each side of the pelvic viscera, it unites with branches of the spinal nerves and ganglia and becomes the pelvic or inferior hypogastric plexus. There is a very close sympathetic-arterial-muscular relationship in the neck and upper extremities through the stellate ganglion, the vertebral artery, the subclavian artery and the thyroid axis artery. This may well explain the pain produced in the so-called shoulder-arm syndrome. The close relationship of musculature of the lumbar region to the pelvic muscle masses through the medium of the sympathetic nerves is significant and may explain the combination of low back pain, pain in the buttocks and pain in the thighs.

One finds repeated instances in which a close relation exists between the sympathetic system, the muscular system, the vascular system and the osseous system, making it impossible to disregard the sympathetic in any problem of pain management. Neither can it be divorced from the common low back situation, nor from the shoulder-arm syndrome. Treatment then is best directed specifically in a manner which takes into cognizance the importance of the sympathetic system. Many methods of approach are at hand and no attempt in this presentation is being made to enumerate the various techniques. The first objective in treatment, of course, is the relief of pain. Assuming that this pain is relieved, therapy should be directed towards correcting

the disrupted equilibrium existing in the musculo-skeletal system. This can be done best by physical rest to the part including all of its components, its vessels, its sympathetic nerves, muscles, etc. Treatment should further be directed toward regaining motion and strength which in most instances has become reflexly involved. Physiotherapy offers the best means of accomplishing this. Treatment obviously must include means of preventing a continuation of painful stimuli. This infers cast treatment or other types of temporary immobilization, whether this immobilization be physical or mechanical. Often much time is necessary in the resolution of this complex problem. It is an established fact that pain, if long continued, causes actual destruction to the pain mediating fibers. It is well known that a central defect is imprinted upon the brain itself if pain is chronic and of severe degree for long enough periods. In such cases, local therapy directed at the peripheral system or to the cord itself will not be

successful. By far the majority of patients in whom pain management is carried out early can be salvaged. I think it is important to stress the role of rehabilitation which must be both physical and mental. It is obvious that rehabilitation carried out in the presence of continued pain will fail. Relief of pain, therefore, becomes an important item in management of this problem.

SUMMARY

An understanding of the mechanism of musculoskeletal pain requires consideration of the embryologic and anatomic features of the autonomic nervous system and its relation to the muscular, skeletal, and vascular systems. Correlation of the changes in these systems yields a logic approach to the management of musculoskeletal pain. It is emphasized that treatment of this condition must be started early in order for rehabilitation to be successful.

Endometriosis of the Colon

JOHN F. REYNOLDS, M.D.*

This report deals with a patient who presented a clinical picture of carcinoma of the large bowel, who after resection was found by pathological diagnosis to be harboring an endometrioma. As the clinical differential diagnosis is a rather difficult one to make, and since this patient presented symptoms which were a bit unusual, it is felt that the experience gained in this case can be of benefit.

Endometrioma of the colon was first reported in 1860 by Rokitansky, and in 1909 Meyer described an endometrioma which resulted in partial intestinal obstruction. Cattell in 1937 reviewed 134 cases of endometriosis found at the Lahey Clinic of which some 16 involved the sigmoid and rectum. Twelve of the latter group were sufficient to cause varying degrees of intestinal obstruction. Several other authors subsequently have reported varying numbers of cases of endometriosis involving the recto-sigmoid with about two to four percent of all patients with endometriosis developing obstructive lesions. Some fifteen to twenty percent of all women have some degree of endometriosis although only a small percentage of these develop endometrial implants in the bowel, recto-vaginal septum, or rectum. Kratzer and Salvati in a recent article reported 225 cases of endometriosis diagnosed by laparotomy of which 77 or 34.2% involved the sigmoid

colon and rectum. In 44 of these cases or about 20%, the sigmoid colon or rectum were adherent to the posterior portion of the uterus and in 15 cases (6.6%) the sigmoid was adherent to the left tube and ovary. Endometrial implants were found on the bowel in about 5.7% and in nearly 2% there was an endometrioma of the bowel, two of which were causing signs of intestinal obstruction. It appears that adherence of the bowel to the uterus is a relatively common finding but that intestinal obstruction in varying degrees due to endometriosis is relatively uncommon. Our case is a bit different in that the patient presented alternating constipation and diarrhea with indigestion, and a tentative diagnosis, rendered some six years previous to laparotomy, of ulcerative colitis. In this particular patient we had a third diagnostic possibility which had to some degree confused the clinical diagnosis. In reviewing this particular problem, reference to ulcerative colitis in the differential diagnosis is unusual.

Mrs. E. C., a forty-seven year old white female, was admitted on August 30, 1954. At that time her chief complaint was spells of indigestion with pain on the left side and diarrhea with bloody stools alternating with constipation. X-rays were first taken on this patient at the Thayer Hospital in 1945 at which time they were reported as negative. She was seen at a New York hospital in 1947, and told she did not have ulcerative colitis. Four years ago she had been seen by still an-

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other physician who after sigmoidoscopy advised her that she did have ulcerative colitis. Her bowels had not been too bothersome recently, and at most she had the experience of four or five movements per day with some mucous and blood and progression of her constipation during the few weeks previous to her hospitalization. Her menstrual history was interesting in that she had had two or three periods of amenorrhea during the previous two years and had had some hot flashes. She had taken Estrogens off and on, which were of no great help, and gave a history of eclampsia twenty-two years previously followed a year later by appendectomy and lysis of adhesions. She had had a uterine suspension some fifteen years ago and four years previously had had D & C done elsewhere.

Physical examination revealed a healthy appearing female of stated age in no distress. The remainder of physical findings were normal except for a hypo-gastric operative incision and slight scarring of the left vaginal wall at the level of the cervix. Laboratory workup was entirely within normal limits including complete blood count, urinalysis and sedimentation rate. Sigmoidoscopy was within normal limits without evidence of blood descending from above, the sigmoidoscope passing without difficulty to the recto-sigmoid junction. Barium enema disclosed a two to three centimeter area of stenosis with apparent shelf formation proximally and distally which was highly suggestive of malignancy of the sigmoid colon. A tentative diagnosis of a malignancy of the sigmoid colon was rendered and laparotomy advised.

At exploration the sigmoid was found to be adherent to the region of the left tube and ovary which contained large chocolate cysts. The other tube and ovary was essentially within normal limits. The involved area of adherent sigmoid was seen to extend over a distance

of about three centimeters with no evidence of palpable mesenteric glands. There was no other evidence of intra-abdominal disease. Bilateral salpingo-cophorectomy and ample resection of the involved portion of the sigmoid with end to end anastomosis were completed. The patient's postoperative course was uneventful and she was discharged from the hospital on the ninth postoperative day and has remained well. Pathological evaluation of tissues revealed endometriosis of the ovaries with active endometrial glands surrounded by well formed endometrial stroma and edematous epithelial tissues in the resected specimen of sigmoid.

It would seem from reports in the literature, as well as personal experience in this case, that the diagnosis of endometriosis of the large bowel is seldom made prior to surgery. It is to be noted that even at the operating table differential diagnosis of carcinoma is difficult to make in a certain percentage of cases, although such factors as age, sex, fertility and dysmenorrhea are factors to be considered, as has previously been noted by many authors. The average patient will show good resolution following surgical castration. With difficulty in differential diagnosis at laparotomy, certainly resection with primary anastomosis is indicated in patients of the younger age group.

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Absence of the Internal Rectus and its Successful Treatment by Vertical Tendon Transplants *

HOWARD F. HILL, M.D.**

The following case is presented because search of the literature has failed to disclose any report of successful transplantation in the human eye of the superior and inferior rectus tendons nasally, for correction of complete and irreparable loss of function of the medial rectus.

LITERATURE

In 1907, Hummelsheim was the first to perform work on monkeys' eyes, purely to test the effectiveness of a surgical procedure, namely by removing the anterior portion of the medial rectus and transplanting portions of the superior and inferior recti anterior to the medial rectus stump. A year later, Hummelsheim reported transplanting portions of the vertical tendons laterally in the human eye for paralysis of the lateral rectus. His method, plus many modifications of it, have been reported in the literature in cases of sixth nerve paralysis, with results that differed markedly. Some authors, including Scobee have felt that little more was gained by this technique than by surgery of the lateral muscles alone. He stressed that many of these operations on the lateral tendons produced useful abduction, and if the Hummelsheim procedure is to be carried out, it should be done in two stages with interval enough between to evaluate the result on the laterals alone.

The author has carried out this two-stage method in a case of congenital sixth nerve paralysis, and obtained abduction only after the second procedure on the verticals was performed.

Review of the experimental work on monkeys by Marina, Olmsted, Margutt, and Yanagiaswa, and Leinfelder and Black, are reviewed in Chamberlain's recent studies on the extraocular muscles in rhesus monkeys.

Chamberlain concluded from his work that the vertical recti do act as secondary adductors in monkeys, but only produce adduction if the lateral rectus was recessed.

Adler states that contraction of the superior and inferior recti produces adduction when the eye is in primary position, but the vertical recti are most effective as adductors when the globe is inwardly rotated.

This concept of adduction of the superior and inferior recti is supported by several authors including Jackson, Duane, Peter, Scobee, and Fink.

O'Connor tried a full vertical transplant for the correction of a lateral rectus palsy, but found it resulted in profound vertical muscle imbalance.

The Hummelsheim technique used for sixth nerve paralysis has been adequately reviewed by Langdon and his associates, and later by Berens and Girard.

Stallard and Peter both mentioned that paralysis of the internal rectus may be treated by tendon transplantation of the vertical recti, but no cases were cited.

In general, in a patient with an isolated and permanent loss of action of an internal rectus, it would seem that the Hummelsheim technique, or especially one of its modifications would be a very logical procedure. It is known that all the recti are much more powerful than their function ordinarily requires. The innervation of the transplanted portions of the vertical tendons is the same as that of the internus, and we have the synergistic action of the vertical recti in adduction, which would add to the expectation of a successful prognosis.

CASE REPORT

On February 8, 1954, a white female age 33 years was seen at the office complaining of diplopia of four years duration. She carried her head habitually to the left, and by an extreme left position was able to avoid diplopia. The right eye was exotropic. She stated that four years previously she had had a tumor removed from the inner canthus of the right eye. Following the surgery, the right eye remained turned out in the present position.

Since the operation, she had carried her head in the extreme left position and had become very self-conscious due to the cosmetic effect. She was able to read by covering her right eye.

Examination disclosed the right eye to be fully exotropic and no adduction present. There was an elevated tissue mass, one centimeter in diameter in the inner canthus, which was somewhat adherent to the eyeball. Her visual acuity was 20/20 in both eyes, with good binocular fixation with the head turned to the left. The muscle movements of the left eye were normal. With the head straight, the right eye was exotropic. With the left eye covered, there was no adduction, but on at-

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tempting to adduct, there was a jerky up and down motion which was thought to be due to action of the obliques. Vertical movements were normal, except as modified by the absence of any action of the internal rectus.

A letter from her former ophthalmologist reported that a tumor had been removed from the inner canthus which extended underneath the rectus muscle. It was also stated that the internus was paralytic, but no exotropia was noted. The pathological report from the Armed Forces Institute of Pathology was as follows:

"The sections are of a mass of fat and dense collagenous connective tissue. Epithelium, hair follicles, and sebaceous glands are not included in the sections submitted. In the absence of these, the tumor must be classed as a lipoma with a larger than usual amount of collagenous stroma. There is no evidence of malignancy."

OPERATION

Under sodium pentathol anesthesia, the following procedure was carried out. The conjunctiva was dissected free of the mass in the inner canthus. This tumor-like mass was cautiously dissected out and an attempt was made to locate the internal rectus. The former insertion of the tendon was visualized, but careful dissection deep into the orbit failed to locate any portion of the muscle. Tenon's capsule could not be identified in this area. The tumor mass was sent to the pathological laboratory. A later report of this tissue was "granulation tissue infiltrated with lymphocytes. The appearance of the tissue is not characteristic of any specific neoplastic process. Interspersed in some areas are groups of skeletal muscle fibres."

The external rectus was then recessed to the equator. The superior rectus was then exposed and divided with as little trauma to the capsule as possible. The medial

half of the tendon was transplanted to the former insertion of the internal rectus. The remaining portion of the superior rectus tendon was moved nasally four millimeters beyond the nasal border of the superior rectus insertion and sutured in place.

The same procedure was carried out upon the inferior rectus tendon. Care was observed not to traumatize the oblique muscle tendons. Chromic 6-0 sutures were used in the transplantation, and 6-0 silk running, untied sutures were used to close the conjunctiva. Binocular dressings were applied.

Due to the trauma of such extensive surgery, particularly in the area of the medial rectus, there was considerable edema and reaction for several days. At the end of three days, the eyes were straight, but with no adduction present. At the end of two weeks, the patient had slight adduction over the midline. At four weeks, the right eye had developed adduction of 20 degrees. There was no diplopia up to this point, and the patient held her head in a normal straight position.

On extreme upward gaze, the right eye diverged, and diplopia was present. There was diplopia in extreme downward gaze. After four weeks, the patient had a convergence amplitude of 14 prism diopters, and a divergence amplitude of 14 prism diopters.

On covering the operated eye, fixation upon a near object produced adduction of 20 degrees of the covered eye.

SUMMARY

A case of complete and irreversible loss of function of the internal rectus of the right eye, presented an unusual opportunity to evaluate the effect of transplanting portions of the inferior and superior recti nasally.

This patient recovered fair convergence, and was relieved of an embarrassing cosmetic disfigurement, and has good functional binocular vision.

Pigmented Naevus of the Conjunctivae

REPORT OF TWO CASES

RICHARD H. DENNIS, M.D.*

In the February 1952 issue of the *Maine Medical Journal*, an article was published indicating the possible dangerous significance of conjunctival pigmented naevi. Since then we have had an increasing interest in this subject.

The purpose of this article is to report two further cases of significance in this field. Both were melanomas, and both were malignant and underwent extensive surgery. One was deeply pigmented, while the other was nearly without color.

In March of 1952, one month after the article appeared, a patient was seen in the office. He complained that some diesel oil had hit him in the right eye two months previously. This dark fluid had been washed out, but he had had no professional care. Two weeks before his first visit, he had noticed a dark line on the inner aspect of his right eye. He could not say whether it seemed to have enlarged.

Examination showed a heavily pigmented fold of conjunctiva just lateral to the caruncle. It was about 6 mm. long and 1½ mm. wide. It appeared to be in the conjunctiva only, and was freely movable. The rest of the eye examination was entirely normal, including the fundus examination which was done with a dilated pupil. Fields and intraocular tension were normal.

Removal of the lesion was advised. The patient came into the hospital two weeks later, when the entire lesion with some surrounding normal-appearing conjunctiva was dissected out.

Shortly thereafter, the laboratory reported that the tissue showed only a chronic inflammatory reaction with fibrosis, possibly due to a foreign body or to chronic trauma. The conjunctiva healed well. The patient did not return for two years, having had no difficulty. In May of 1954, he was seen again in the office. He stated that recently he had noted a gradual reappearance of the dark area in his conjunctiva. He could not remember when it had first reappeared, but thought it was a few months before the visit.

Examination showed a moderately large pigmented lesion in the same area. It was dark, and covered an area about 8 mm. long and 8 mm. wide. It had in its center a pedunculated mass of dark tissue.

Consequently, he was seen in consultation by Dr. Verhoeff of Boston, and Dr. Reese in New York, as well as by Dr. Howard Hill. The consensus of opinion was

that he should have an exenteration. Dr. Reese felt that clinically the patient presented a picture of acute melanosis.

Exenteration was done on June 8, 1954, with a skin graft from the inner aspect of the upper arm being employed. In spite of the fact that the patient pulled out the entire orbital dressing on the second and third post-operative nights, the wound healed cleanly and with complete adherence of the graft.

About one-half year later, a swelling was seen in the orbit and on the right side of the face in the pre-auricular region. A biopsy of the orbital area showed old blood. The pre-auricular region, however, yielded a large node filled with pigmented malignant melanoma cells.

To date, there has been no recurrence of enlarged nodes. However, in March of 1955, the patient began to have slight bleeding from the nasopharynx. Consultation with the otolaryngological service revealed this to be coming from the antrum on the involved side. Exploration of the antrum by Dr. F. T. Hill showed bony erosion of the orbital floor with neoplastic tissue presenting in the superior-mesial angle, microscopic examination of which confirmed the diagnosis of recurrent melanoma. The neoplastic area was subjected to extensive electro-coagulation. The patient has continued to bleed slightly since then, but has shown no further orbital, glandular, or external changes.

The second patient came in with a lesion on his right eye which was somewhat similar to a pterygium. It was nasally placed, overlapped the cornea by 3 mm. and extended medially from the limbus of the cornea about 6 mm. It was thick and soft, but not pigmented. The patient was not cooperative. He said he thought the lesion may have been present for three to five months, and was increasing in size.

Although the removal of the lesion was advised, the patient procrastinated for four months. When it finally was excised and examined, it was found to be a malignant, very slightly pigmented melanoma. Immediate enucleation was advised. Again the patient refused operation for several months, during which time there was no clinical recurrence nor extension of the growth. When the eye was removed, a pathological re-affirmation of the diagnosis was made.

Approximately one year later, the patient returned with a small, elevated conjunctival lesion, this time pigmented. It was on the temporal side of the previously

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enucleated orbit several centimeters from the site of the original lesion. Removal and examination showed it to be malignant and highly pigmented.

After consultation, complete exenteration was advised. This time the patient did not demur, but came in at once and the operation was performed.

These two cases indicate the possible significance of conjunctival lesions. It is unfortunate, but in entire agreement with the literature that removal of the initial

lesions do not insure a cure. As is seen with these very illustrative cases, the condition is often more widespread than can be determined clinically. Both of these cases went on to progression even after apparent complete removal. This does not mean, however, that removal of suspicious and particularly pigmented lesions should not be done. Instead, their removal should be demanded by the doctor who first sees them. This is the only procedure which offers any help.

Interpretations of Discrepancies in Laboratory Reports

J. M. JACKLER, M.D.*

The urine and blood examination, chest x-ray and electrocardiogram involve factors which may cause discrepancies between laboratory reports and the clinical diagnosis. This discussion will be concerned only with situations where the laboratory test may fail to reveal expected diagnostic results for a clinically proven diagnosis.

I. URINE

A severe urinary tract infection may occur in the absence of a cloudy urine and a diagnosis may be missed if careful analysis of the urinary sediment is not performed. However, the examination of the urinary sediment should be done as soon after the specimen is collected as is possible; for, upon standing, the urine becomes alkaline and the formed elements and casts deteriorate and eventually disappear. The apparent paradox of alkaline urine in a patient with uremic acidosis would be solved if the urine were examined before the pH change occurred. The urine of a glomerulonephritic, examined immediately after voiding, contains casts that will not be present should the urine stand on a laboratory table until its pH has become alkaline. The urine collected in the office is preferable to having the patient bring in a sample of urine that has been voided hours before. As the pH of the urine becomes alkaline, various crystals will precipitate out of solution. This precipitation is increased by heating and will produce a false positive albumin result. It is of great importance to determine whether the cloudiness is albumin or crystals by adding a small amount of glacial acetic acid to redissolve the crystals.

In testing for urinary acetone by the nitroprusside

method, occasional false negative results have been obtained when the ammonium hydroxide has deteriorated. Similarly, false negative tests for fecal occult blood by the guaiac method have been traced to deterioration of the hydrogen peroxide. Both ammonium hydroxide and hydrogen peroxide should be kept in dark covered bottles to inhibit the rate of deterioration.

II. BLOOD

There is an inherent error of approximately 200,000 cell /mm³ in the technique of the red blood count.⁽¹⁾ A report of 3.9 million rbc /mm³ occurring three days after a report of 4.2 million rbc /mm³ does not necessarily represent blood loss or "laboratory error." The technique of the red blood count is not that reliable. It is for this reason that many clinicians prefer the use of the hematocrit level in cases where significant blood loss is occurring. The hematocrit level, although more accurate than the red blood count is not infallible; for in cases where there is fluid loss with blood loss, both tests may be misleading normal or high.

Although there is usually an associated elevation of the white blood cell count with severe bacterial infection; not uncommonly, particularly in overwhelming sepsis, the white blood count may be normal or even depressed.⁽¹⁾ This laboratory finding is often of great importance for it may be the first evidence to suggest a poor prognosis. There are some chronic infections, which, when they exacerbate into an acute phase may not be associated with elevated white blood count. Two common examples are bronchopneumonia developing on a background of bronchiectasis and acute pyelonephritis developing on a background of smoldering pyelonephritis in a diabetic. In these situations, the normal white blood cell count does not have the ominous signi-

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ficance it would have in a fulminating pneumococcus lobar pneumonia in a previously healthy young adult.

The serum amylase (or urine diastase) is a group of complex enzymes whose function is the intermediate breakdown of certain carbohydrates. These enzymes are present in increased concentrations in the blood (or urine) in acute pancreatitis. They also increase in a duodenal ulcer penetrating into the pancreas, peritonitis, and following the parenteral use of morphine. However, the serum amylase test has its greatest clinical use in the evaluation of acute pancreatitis.⁽²⁾ The test has two limiting factors. First: the test must be done within a very short time, after the sample is collected. These enzymes are exceedingly labile, and deteriorate rapidly once removed from the body. Second: these enzymes are present in diagnostic concentration within the first 48 hours after the acute attack. Following this initial rise, concentration of these enzymes rapidly returns to a normal level.⁽²⁾ Thus, if a serum amylase be drawn three days after the acute attack of pancreatitis, the test will probably have little significance other than to direct attention away from the correct diagnosis.

III. CHEST X RAY FILM

The standards for the size of the cardiac shadow are computed with the diaphragms being at resting position. Should the film be taken with the patient in exhalation, the diaphragms are elevated and the cardiac shadow appears artificially enlarged. A repeat chest film taken at inspiratory effort will often reveal that the apparent cardiac enlargement does not exist. Other conditions causing elevation of the diaphragms, (gastric dilatation, intestinal obstruction, air swallowing with a large amount of air in the stomach, ascites, and pregnancy) can produce an enlarged cardiac shadow⁽³⁾.

Variations in the thoracic cage influence the cardiac silhouette. A depression of the sternum can cause enlargement of the heart shadow where no cardiac enlargement exists. If a patient has a normal heart size by clinical examination, a depressed sternum, and an enlarged heart by X ray; the X ray report does not necessarily reflect the true cardiac size. Conversely, a long flat chest will often cause a smaller heart shadow than actually exists.

The X ray diagnosis of a pleural effusion is often less accurate than the clinical examination of the patient. It is estimated that 300 to 400 cc of pleural fluid are required before the characteristic density appears on the chest film⁽⁴⁾. In viral pneumonias, the chest X ray will often reveal widespread changes which are not detectable by clinical examination. However, there are many causes where the opposite is true, namely, extensive auscultatory changes with minimal or no abnormalities on the chest film. The routine chest X ray may not reveal a moderate degree of bronchiectasis, particularly when the lesion is in the left lower lobe (an extremely frequent site), where it is masked by the heart shadow.

IV. ELECTROCARDIOGRAM

Within certain limits, the electrocardiogram (ECG) is a highly specific laboratory test; however, there are definite limitations to its diagnostic value. It has been well established that the ECG may be normal in the presence of severe angina pectoris. The exercise test was evolved in an attempt to fill this diagnostic loop-hole.

When a previous tracing is within normal limits and a clinical diagnosis of acute myocardial infarction is made, the sudden appearance of a left bundle branch block, LBBB), whether complete or incomplete, would be consistent with the clinical diagnosis. However, in the presence of a pre-existing LBBB, there will probably be no change in the ECG because of the abnormal ventricular conduction, although the patient has had a severe myocardial infarction. In this situation, the ECG cannot be used as laboratory evidence for or against the clinical diagnosis. Thus, should a 12 lead ECG reveal no change in a patient whose clinical picture is that of a myocardial infarction, it is of considerable importance that a LBBB first be excluded.

The incomplete right bundle branch block (inc. RBBB) has long been a problem in correlation, for it may be a normal variant or a manifestation of right ventricular hypertrophy. Generally speaking, in the presence of right axis deviation, the inc. RBBB pattern associated with a large R prime in leads V3R and V-1 and ST and T changes in the right precordial leads should be considered suggestive of right ventricular hypertrophy rather than the normal variant. Recent studies in vectocardiography suggest that the ECG is not sufficiently subtle to demonstrate moderate right ventricular hypertrophy⁽⁵⁾.

SUMMARY

There are inherent limitations in certain laboratory procedures. Due to these limitations, some unexpected laboratory results should not be considered as "lab errors," nor should they be considered sufficient evidence to disregard a well founded clinical diagnosis.

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The Use of Quinidine

PAUL H. PFEIFFER, M.D.*

HISTORY

Historically, quinidine is one of the oldest drugs still in use. As a member of the cinchona alkaloids this interesting drug was in use by the Indians of South America when the Spanish "conquistadores" discovered that continent. Introduced to Europe in the 16th century the extract of cinchona bark was used in the treatment of fevers. The first indication that quinidine might be useful as a cardiac medication was the successful treatment with cinchona bark of "rebellious palpitation" in 1749 by a French physician, Jean-Batiste de Senac. The modern usage of quinidine for disorders of heart rhythm resulted from the observations of a businessman patient of Wenkeback who, in 1914, found that quinine was successful in changing his auricular fibrillation to regular rhythm. Four years later Frey, experimenting with the other cinchona alkaloids found quinidine to be the most effective in disorders of cardiac rhythm.

CHEMISTRY

Quinidine, the dextro-rotary isomer of quinine, can be found in concentrations of up to 3% in cinchona bark. It is usually prepared by isomerization of quinine.

INDICATIONS AND CONTRAINDICATIONS

Quinidine has been called the "broad spectrum" drug for disorders of rhythm. It has been used successfully in the prevention and termination of auricular fibrillation, auricular flutter, auricular extrasystoles, paroxysmal supra-ventricular extrasystoles. Unfortunately it cannot be used indiscriminately in these disorders due to the drug's capacity for producing unpredictable and occasionally serious reactions. This hazard must be weighed against the possible benefits to be obtained by its administration. The two major contraindications to its use are: 1. the patient who has had a serious reaction to its use, i.e., thrombo-cytopenic purpura; and 2. in the presence of complete auriculo-ventricular heart block. Aside from these specific instances the contraindications are not clear-cut.

PHARMACODYNAMICS

For the sake of brevity I will discuss here only the effects of quinidine on the cardio-vascular system. The exact action of the drug is unknown, but there is evidence to suggest that quinidine suppresses the oxygen uptake of cardiac muscle; that it interferes with normal

processes requiring acetylcholine; and that it is capable of lowering the plasma potassium to low levels.

The conversion of auricular fibrillation to normal sinus rhythm depends on the ability of quinidine to prolong the refractory period of cardiac muscle. When conversion fails to occur it may be due to the prolongation of conduction time, which has an antagonistic effect on the circus movement of auricular fibrillation.

Quinidine may cause a variety of electrocardiographic changes in patients with or without heart disease: 1. prolongation of the P-R interval to produce varying degrees of A-V block; 2. widening of the QRS; 3. sagging of the S-T segments with widening and notching of the T waves. Quinidine acts to depress myocardial irritability and is capable of abolishing auricular and ventricular premature beats. However, the drug has also been known to produce ventricular extrasystoles and even ventricular tachycardia. Any increase in the number of premature beats must be considered an ominous sign requiring immediate discontinuance of the drug. Quinidine blocks the action of cardiac impulses transmitted over the vagus nerve. It also acts to block the cholinergic impulses arising in the carotid sinus. The well known vasodilating effects of quinidine can produce serious hypotension. The drug has also been shown to reduce myocardial contractility and stroke volume. Finally, in the presence of fully digitalized hearts quinidine may have bizarre and unpredictable consequences.

METHOD OF ADMINISTRATION

Quinidine is available for oral, intramuscular and intravenous use. The intravenous route is indicated only in extreme emergencies and the drug must be injected very slowly. Maximum blood levels are obtained in one to three hours after oral administration, and 50% of the peak level remains after eight hours. 20% of the administered dose can be recovered in the urine, the rest is metabolized by the liver. Whenever doses of 0.6 gm. or more are being used frequent blood pressure and electrocardiographic checks are obligatory. Clinical response correlates so poorly with blood level obtained that this determination is of little help in practice. Dosage schedules vary widely depending on the urgency of the situation. A dose of 0.2 gm. to 0.4 gm. every 6 to 8 hours being sufficient to prevent the occurrence of a few symptom-producing extrasystoles, on the other hand, ventricular tachycardia and pulmonary edema might require 0.8 gm. to 1.0 gm. at three to four hour intervals. Enteric-coated capsules are often used to slow absorption of the bed-time dose.

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TOXICITY

The toxic effects of quinidine are numerous and varied. They range from the well-known symptoms of cinchonism to rarely encountered sensitivity reactions characterized by thrombocytopenic purpura, delirium, respiratory depression and optic neuritis. Among the serious cardio-vascular manifestations are heart block, cardiac standstill, ventricular tachycardia and ventricular fibrillation. In the treatment of auricular flutter the clinician may be embarrassed to discover that quinidine has produced a paradoxical tachycardia resulting from 1:1 auriculo-ventricular response. This situation may often be averted by prior digitalization. The danger of emboli dislodged from fibrillating auricles at the moment of conversion remains a potential hazard. It is generally felt that the likelihood of this disaster is no greater than it would be if auricular fibrillation were allowed to persist.

CLINICAL STATUS

There is little doubt that quinidine holds a definite place in the medical armamentarium. Its application in the treatment of ventricular tachycardia or pre-fibrillatory ventricular extrasystoles may be a life-saving procedure. Since the advent of pronestyl there has been a tendency for clinicians to prefer it to quinidine in the treatment of the above disorders since it seems to be less toxic and is more easily administered parenterally. Quinidine is of value in the prophylaxis of paroxysmal auricular tachycardia. Occasionally digitalis proves just as effective and simpler to administer.

Recently there has been a revival of interest in the use of quinidine to convert auricular fibrillation to normal sinus rhythm, stimulated by the demonstration that the cardiac output can be increased by 23%, the venous pressure and the circulation time significantly reduced and the vital capacity increased by this maneuver. The restoration of normal sinus rhythm is also advocated for the reason that it reduces the tendency to thrombus formation. On the other hand, definite proof that conversion prolongs life has not yet been established, in fact patients in whom attempted conversion failed seem to survive as long as those successfully treated. However, unless there are definite contraindications, the patient with a history of repeated emboli deserves a try at conversion. This should be done after suitable anticoagulant therapy. A discouraging feature of this form of therapy is that relapses occur in from 50-70% of the cases after a few months. One author obtained a relapse rate of only 20% by the use of large maintenance doses. Also the patients with large hearts and intractable failure who could most benefit from conversion are the ones most difficult to convert and most likely to develop serious toxic reactions to quinidine.

In conclusion I would like to report an experience with 5 patients seen consecutively in whom attempts

at conversion were made. The patients were seen on the cardio-vascular service of the Kaiser-Foundation Hospital in Oakland California during the month of January 1955.

1. A 25-year-old female with mitral stenosis and auricular fibrillation was seen a month after she had had a cerebral embolus. Quinidine therapy was discontinued after she complained of severe anginal-type chest pains associated with striking S-T depression of the chest leads.

2. A 37-year-old female with mitral stenosis and auricular fibrillation was seen 2 weeks after she developed an embolus to the left femoral artery. With conservative management the circulation to the leg was preserved. Quinidine therapy had to be discontinued because it caused intractable vomiting.

3. A 43-year-old female with mitral stenosis had been well compensated until two months prior to admission. At that time she became decompensated coincident with the development of auricular fibrillation. Quinidine therapy was discontinued on the second day due to the development of an acute delirium which subsided promptly.

4. A 58-year-old male with thyrotoxicosis and auricular fibrillation had been treated with radio-iodine. The thyrotoxic symptoms were much improved but the auricular fibrillation persisted. Quinidine therapy induced anginal-type anterior chest pains and the patient refused to continue treatment.

5. A 78-year-old male with arteriosclerotic heart disease and moderate congestive failure was found to have numerous ventricular extrasystoles. After two days of quinidine therapy in doses of 0.4 gm. every 8 hours, he was noted to have developed tremendous U waves in the anterior chest leads. The serum potassium was within normal limits. Although the exact significance of this finding could not be determined, it seemed best to discontinue quinidine whereupon the U waves reverted to their usual size.

SUMMARY

Quinidine, one of the oldest drugs in the medical armamentarium, has a definite place in modern therapy. To keep this fascinating and oft-times paradoxical drug from falling into disrepute its use should be limited to clinicians who are aware of its limitations, alert to its hazards and willing to take the precautions necessary to obviate serious toxicity.

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The President's Page

Have You Checked Your Congressman?

HAVE you checked your congressman lately concerning bills that are now, or will soon be, before Congress? I particularly refer to House Bill 7225, dealing with changes that are now being proposed regarding compensation laws. This bill presents a situation which, next to the outright socialism of medicine, is the most crucial that the medical profession could have before the House.

Your congressmen recently voted "Yes" on Bill 7225 without regard for your interest or the interest of the American people at large. These congressmen displayed absolutely no regard for our opinions. They were party to the most undemocratic method of operation by putting the bill through without benefit of debate. They handled it as though it were an emergency bill which had to be pushed through without time for thought and consideration. It's about time we take our congressmen to task for acting in such an absurd and undemocratic manner.

Changes in the compensation laws should be investigated by you, and you should then notify your congressman regarding your feelings. Information regarding this bill is published elsewhere in this issue of the Journal. Let's attack these problems at home, rather than in Washington, for a more personal approach to the situation. And let's attack them *before* they happen!

MARTYN A. VICKERS, M.D.

President, Maine Medical Association

The Journal of the Maine Medical Association

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Across The Desk

Social Security and Doctors of Medicine

During the next month, you will be asked by your State or County Medical Society to vote on two questions—

First — Should physicians be covered under the existing Social Security laws and be entitled to old age and survivors insurance benefits?

Second — Should we be for or against an extension of benefits of the present Social Security system to include the so-called Social Security amendments bill of 1955 (H.R. 7225). This bill would:

1. Provide benefits to disabled children over age eighteen (under the present law they benefit only up to age eighteen).

2. Make women eligible for benefits at age sixty-two (present law is age sixty-five).
3. Provide compulsory national disability insurance at age fifty to workers certified as disabled (under the present law disabled workers pension rights are frozen as of the date of disability but they do not receive benefits until age sixty-five). This portion of the law was called the "disability freeze" passed in 1954.
4. Extend OASI coverage on a mandatory basis to all self-employed: lawyers, dentists, osteopaths, veterinarians, chiropractors, naturopaths, optometrists (except doctors of medicine).
5. Increase the contributory rate for employers and employees as well as the self-employed by 0.75%.

Old Age and Survivors Insurance

The present Social Security requires those who participate to pay 2% on their earnings up to \$4200 a year. This is matched by a similar payment from the employer. If self-employed, the person must pay this tax with his income tax. Benefits are paid upon application and establishment of proof.

The maximum a retired worker may collect at present is \$108.50 per month. If married, and both husband and wife are over sixty-five, the maximum is \$162.80 per month. If the worker continues to work and earn \$1200 a year, he cannot draw any benefits at all except in those months in which his earnings are less than \$80.00.

If the worker in the \$4200 income level dies, his

wife (if over sixty-five) may draw \$81.40 per month, or at any age if she has one child under eighteen, she may get \$162.80 a month. If two or more children are under the age of eighteen, she gets \$200.00 a month. If she is in the lower income level, there are stated allowances for more than two children, but the maximum is \$200.00. When the children reach eighteen, the widow (if under sixty-five), will receive no benefits until she reaches age sixty-five, at which time her maximum will be \$81.40 per month. At the present time the minimum a worker will receive upon retirement is \$30.00 per month, or man and wife over sixty-five, \$45.00 per month, and the widow, or a surviving minor child, if sole heir, \$30.00 a month.

The Arguments

A brief summary of the arguments for coverage under the Social Security program follows:

1. We are paying tax money for present and future benefits of those people now covered by Social Security without having any benefits of coverage ourselves.
 2. Most younger physicians realize the need for basic security income for widows and minor children or for retirement years; both of which are supplied by Social Security coverage.
 3. Five out of every six workers in the United States and their dependents are now covered by the Social Security program.
 4. It is estimated that one-third of the doctors of medicine are already covered under Social Security.
 5. The benefits are directly underwritten by tax money. This means that the sixth worker, not covered at present, still pays for the benefits of the five who are covered.
 6. Social Security was conceived to provide a basic security income for widows and minor children or for retired persons over sixty-five years of age. The basic security income always to be augmented by whatever additional assets the family had been able to accumulate.
 7. Social Security benefits are tax free and are influenced (in the case of retired workers) only by other income earned by gainful employment. The benefits are not influenced by income from investments, etc.
 8. In almost all instances physicians would qualify for maximum benefits and make a maximum contribution of 4% of the first \$4200 of their annual income (\$168.00 a year).
 9. Social Security should not be thought of as a substitute for individual tax deferred retirement income plans, such as the Jenkins-Keogh bill, but should be thought of as an adjunct to any other retirement plan in which one may choose to participate.
 10. Social Security coverage for physicians could be offered on a voluntary basis according to the precedent set by the Social Security administration for clergymen.
 11. The Social Security law has been in force twenty years and now covers 87% of the American people. It most probably can never be repealed.
- Might it not be a good idea to join it and to have a strong voice in its control and administration?
- A brief summary of the arguments against coverage under the Social Security program follows:
1. There is no such thing as voluntary inclusion. Social Security will not for long accept the poor risks on a voluntary basis and let the others go untaxed.
 2. Unlike private insurance, once it is joined, it is forever irreversible.
 3. It is not actually an insurance program at all; it is a payroll tax set up to tax future generations with the obligations that our present generation has supposedly already paid for.
 4. Social Security payments are scheduled to rise 6¾%, all of which is to be paid for by the doctor himself. Actual payments may rise in the next twenty years to 20% or 30% of one's net income.
 5. Most doctors do not retire at age 65. They are, therefore, paying into Social Security throughout their life and drawing benefits only in a few instances.
 6. The crude mortality rate has dropped 46% since 1900. The average remaining lifetime at age 65 is now 153 months for a man and 180 months for a woman. The average check for benefits to a man under Social Security would be \$15,300 and to a woman \$18,000. If a man started to pay Social Security taxes on January 1, 1937 and paid taxes every month, he would not have paid more than \$753 by the end of 1955. With an additional \$753 paid by his employer, the combined total is about one-tenth of the \$15,000 needed to finance his primary pension. These figures do not take into consideration the amount of money needed to finance survivor or children's and widow's benefits under the Social Security program.
 7. Much of the appeal for Social Security is for cheap survivor benefits. Under Social Security one would receive nothing if his earnings exceeded \$1200 after age 65. Frank Dickinson of the AMA's Economic Bureau points out that the survivor benefits granted under Social Security may be purchased from a commercial company less expensively. On three occasions Congress has adopted plans to extend coverage under Social Security and/or to increase its benefits.
 8. In preference to compulsory coverage under the Social Security Act, the AMA is giving its active support to the Jenkins-Keogh bills. These bills would amend the Federal Internal Revenue Code so that self-employed physicians and others would have the same tax deferment advantages on amounts of money set aside for retirement as are now enjoyed by the officers and employees of corporations.

H.R. 7225

If the age limits at which one is eligible to collect Social Security benefits are to be let down this year, what is to prevent them from being reduced further by some future Congress?

A larger and larger percentage of citizens will be living in paid retirement and a progressively smaller percentage will be paying larger taxes to support them.

An editorial in the New England Journal of Medicine sums it up this way, "Under the Unemployment Compensation and Old Age Survivor's Insurance, the two contributory Social Security programs now in effect, benefits are extended on the basis of objective criteria. A person is either employed or unemployed; he is either dead or alive; he is at the age of 65 or not at that age. If disability benefits were placed in the same contributory classification, in most cases only a physician could determine whether or not the insured was actually, permanently and totally disabled. The placing of such a responsibility on the medical profession could have a deleterious effect on the future of medical practice in this country."

The various states and the Federal Government are already operating a rehabilitation program to which large sums of money are assigned annually. If a patient is placed in a category of permanent total disability and thereby eligible to receive benefits, will it help his rehabilitation, and what will it do to the present rehabilitation program?

No one knows how much this proposed program of disability benefits would cost. The estimates vary by several millions of dollars.

It appears to us that AMA's constructive suggestion for a complete impartial study of the entire Social Security program is a good one and merits our undivided support.

EDITOR'S NOTE: This editorial is presented in this style to save you, the reader, time and energy. An attempt has been made to draw from the literature and from the discussions, the foregoing arguments. They are not complete on either side of the question; they are not original with me nor are they presented as such. Your comments will be read with interest.

AMA Report on Nationwide Survey of
County Society Activities

Activities sponsored by the nation's county medical societies ran the gamut from alcoholism control to venereal disease detection during 1954-55, a recent American Medical Association survey concluded. Nearly 64 per cent of the county medical societies in the United States and its territories replied to a questionnaire on their professional, educational and community programs, circulated by the AMA's Council on Medical Service. This survey report reveals a growing awareness by both large and small societies of the need for more participation in community affairs.

Following is a summary of the statistics contained in this report:

MEETINGS — More specialty society, postgraduate and hospital staff meetings have tended to minimize the importance of the county society scientific meeting although more than 95 per cent of the societies meet regularly. Socio-economic aspects of medicine are becoming increasingly important as meeting topics. Increase in attendance was particularly noted by the larger societies although average attendance reached its highest percentage in the smaller societies.

ACTIVITIES — To serve the individual physician-member, the public and allied health groups most effectively, medical societies have organized special committees. The size of the society determines, in a large measure, the extent of its activities.

SOCIETY PUBLICATIONS — Society bulletins and journals serve as records of official business, meeting reminders and a way of disseminating scientific and socio-economic information.

PUBLIC EDUCATION PROGRAMS — Besides providing medical services, medical societies are recognizing a growing need to interpret these activities for the layman. The speakers bureau, sponsored by 240 societies, is the most popular outlet.

COMMUNITY PROGRAMS — County societies also participate in programs sponsored by local and state voluntary and governmental agencies. Most prevalent are indigent care programs, reported by 614 societies. In addition, nearly 400 societies report that they state publicly that persons who cannot pay need not go without the services of a physician. Use of average or usual fee schedules was reported by 654 societies; use of medical social service workers by 21 societies.

PERSONNEL, BUILDING, FINANCES — Society activities and responsibilities have increased so greatly, especially in the larger groups, that full time executive personnel often is needed to help conduct society business. A direct relationship between size of society and amount of its dues can be noted from the survey. In the higher dues bracket, 57 societies reported dues of more than \$40 in 1954; 40 of these societies have more than 100 members. Sixty-eight societies reported dues in that bracket in 1955; 43 of these societies have more than 100 members. The largest number of societies reported dues of \$5 or less, but about 90 per cent of these societies have fewer than 100 members. Among the societies with more than 100 members, the most common amount was between \$6 and \$10.

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Maine Medical Association
1956 ANNUAL SESSION NOTES *

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Allan R. Moritz, M.D.

* Each issue of the Journal between now and June (the convention issue) will feature a page concerning the annual session program—DON'T MISS IT.

The Samoset — June 24, 25, 26

STATE OF MAINE

Department of Health and Welfare

DEAN FISHER, M.D., *Commissioner*
State House, Augusta, Maine

Aid to the Disabled

(The following article which provides more technical and detailed information regarding the State's newest assistance program, Aid to the Disabled, was prepared by Alta Ashley, M.D., Medical Review Team and Vance G. Springer, Director of Research and Statistics, both of the staff of the Department of Health and Welfare.)

Additional and more technical information on the State's new program of Aid to the Disabled is provided in this article. The information is based on the December, 1955 caseload which totaled 385 persons. This program was initiated in March of last year to provide assistance to persons between the ages of 18 and 65, who are permanently and totally disabled and who are in need.

At the inception of the program certain priorities were set up for accepting cases. Persons receiving Special Resolve Pensions, General Assistance and incapacitated fathers in families receiving Aid to Dependent Children were processed first. The majority of these cases were disabled by arthritis, multiple sclerosis, polio, injuries resulting in paralysis and cerebral accidents. For this reason the table showing the major impairment of recipients of Aid to the Disabled, cannot be construed as representing a cross-section of the population at large with disability severe enough to be classified as total and permanent.

The median age of the 385 persons assisted in December 1955 was 52 years. About 12 per cent were less than 35 years of age, 19 per cent were between the ages of 35-44; 28 per cent were between the ages of 45-54 and 41 per cent were between 55 and 64 years of age.

Twice as many men as women were receiving assistance, although the median age was the same for both sexes.

Forty-seven per cent of the persons aided were living in their own homes. About one out of five persons were living at home with their parents, or in the home of a son or daughter. An additional fourteen per cent were living with other relatives. About one out of ten were in nursing homes, convalescent homes, or in hospitals. The remainder were in boarding homes, rooming houses, or living in private homes of non-related persons.

The extent of the mobility of the persons aided was classified into two broad groups — the housebound, and those capable of activity outside their own home. The

housebound include the bedridden, the chairfast and those capable of moving about the house but not outside. Those persons capable of movement outside the house were classified according to whether they needed the help of another person, the help of a device or were able to move about without such help.

Thirty-eight per cent of the persons aided are housebound, 12 per cent are bedridden, 18 per cent are chairfast and 8 per cent are capable of moving about the house.

Sixty-two per cent of the persons aided were capable of some activity outside the home. Fifty-two per cent of the persons aided were able to move about by themselves; two per cent required the assistance of another person and eight per cent were able to get about with the aid of a device.

A study of Aid to the Disabled recipients conducted in 30 states in mid-1951 by the Bureau of Public Assistance of the U. S. Department of Health, Education and Welfare revealed that 21 per cent of the recipients were housebound and 79 per cent were capable of activity outside their own homes. About 6 per cent of the recipients in this study were bedridden and an equal proportion were chairfast.

The table shows the major impairment of the 385 persons receiving assistance under the Aid to the Disabled program in December 1955.

The figures speak quite well for themselves. However, there should be some word of explanation concerning the diagnoses as given.

Medical information supplied is frequently very scant. Hints as to true diagnoses are, however, often contained in the social worker's report which accompanies each application. For instance, many cases have been received in which the diagnosis has been cretinism, yet by piecing together information on the medical report with that in the social report it is evident that some of these so-called cretins are cases of mongolism, achondroplastic dwarfism, Morquio's disease and other such conditions. Idiots are called imbeciles and morons.

The diagnosis of infantile paralysis and even polio

AGE AND SEX OF RECIPIENTS, BY MAJOR IMPAIRMENT, DECEMBER 1955

Major impairment	AGE AND SEX										
	Total			Under 35		35-44		45-54		55-64	
	Total	M	F	M	F	M	F	M	F	M	F
Total	385	257	128	31	16	47	24	75	33	104	55
Arrested tuberculosis	9	8	1			4		2		2	1
Other tuberculosis	6	5	1			1	1	3		1	
Syphilis and its sequelae	6	4	2			1	1			3	1
Late effects of poliomyelitis	22	10	12	1	1	1	4	3	6	5	1
Late effects of encephalitis	1		1		1						
Other infective and parasitic diseases	2	1	1			1			1		
Neoplasms	10	9	1	1		2			1	6	
Asthma	7	7	0					4		3	
Diabetes	4	1	3					1			3
Other allergies, endocrine system, metabolic and nutritional disorders	4	2	2		1	1		1	1		
Anemia	2	1	1				1			1	
Mental deficiency	21	7	14	1	4	4	5	1	2	1	3
Multiple sclerosis	20	11	9	2		5	4	1	3	3	2
Other inflammatory diseases of central nervous system	2	2						2			
Paralysis agitans	9	7	2	1		2		3	1	1	1
Cerebral spastic infantile paralysis	18	11	7	6	1	2	1	1	3	2	2
Cerebral paralysis	34	22	12		1	2	1	6	3	14	7
Epilepsy	13	8	5	4	2	2	2	1		1	1
Other diseases of central nervous system	8	7	1	3		2	1	2			
Diseases of nerves and peripheral ganglia	1	1						1			
Chronic rheumatic heart disease	8	7	1			2		4	1	1	
Arteriosclerotic heart disease	34	28	6			1		7		20	6
Chronic endocarditis and other myocardial degeneration	4	2	2							2	2
Other heart diseases	1	1				1					
Hypertension with heart disease	23	13	10			2			3	11	7
Hypertension without mention of heart	2	1	1					1			1
Other diseases of arteries	2	1	1				1	1			
Diseases of veins and other diseases of circulatory system	3	3	0	1						2	
Bronchiectasis	2	2	0					1		1	
Other diseases of respiratory system	4	4						2		2	
Diseases of digestive system	4	4						2		2	
Diseases of genito-urinary system	3	3						2		1	
Diseases of skin and cellular tissues	2	2						2			
Arthritis	51	32	19	1	1	5	1	13	4	13	13
Deformities	4	4						2		2	
Osteomyelitis and other diseases of musculo-skeletal system	11	8	3	6	1	1		1	2		
Congenital malformations	13	6	7	1	3	2	1	3	1		2
Symptoms, senility and ill defined conditions	2	1	1			1					1
Injuries resulting in paralysis	13	11	2	3		2		2	1	4	1

embraces many conditions including not only poliomyelitis but cerebral palsy due to birth injury, hydrocephalus, subdural hematoma and other conditions due to intracranial hemorrhage, and sequelae of meningitis or encephalitis in childhood. A description of the nervous system, that is the status of reflexes, presence of flaccidity or spasticity, incoordination, tremor, fibrillation, etc., would aid the medical reviewing team tremendously in placing such cases in their proper categories.

Arthritis is another term which has been used to cover such conditions as spastic paralysis or other de-

forming diseases. It is interesting to note that even after reviewing nearly 1,000 cases, no case has been diagnosed as gout. Does this reflect a true incidence or is it due to lack of recognition?

The cases so far reviewed have been highly selective and probably not representative of the total number of disabled persons in the state. As more cases from less selective sources are reviewed, other conditions may be found which will displace the principal conditions indicated in the table from their positions of prominence in causing disability.

Parker Stinson Retires as State Registrar of Vital Statistics

Parker B. Stinson, veteran State Registrar of Vital Statistics in the Department of Health and Welfare, retired as of January 1, 1956 and will be succeeded by his assistant, Edson K. Labrack of Augusta. Mr. Stinson has been Director of the Division of Vital Statistics for the past 16 years. He was Postmaster at Wiscasset for 16 years and formerly taught school after his graduation from Bates College in 1915. He did post-graduate work at the Massachusetts Institute of Technology in preparation for his State position.

Mr. Stinson was honored on Friday, December 30 at a Worster House luncheon by 50 departmental colleagues. Acting in behalf of the group, the Commissioner, Dr. Dean H. Fisher, presented him with a sports jacket and a textbook on hunting.

Mr. Labrack, a native of Waterville, was graduated from DePauw University in 1949 and received his Master's degree in Public Health from the University of Michigan in 1953. He is a combat infantry veteran of World War II.

Symposium on Problems of Tuberculosis in Childhood

A one day symposium on the problems of tuberculosis in childhood will be presented at the Central Maine Sanitarium at Fairfield, Monday, March 18, under the sponsorship of the Maine Department of Health and Welfare and the Maine Trudeau Society.

The symposium will be conducted by Dr. Edith M. Lincoln, Professor of Clinical Pediatrics, New York University College of Medicine, consultant at Roosevelt

and Meadowbrook Hospitals and formerly Chief of the Bellevue Children's Chest Clinic.

Dr. Charlotte Marker, Assistant Professor of Pediatrics and Chief of the Chest Clinic at the New York University College of Medicine, and Dr. Pamela Davies, Research Fellow, will assist Dr. Lincoln in the program.

Any member of the medical profession will be welcome. The tentative program follows and a more detailed program will be sent out later.

Pathogenesis of Tuberculosis and Clinical Pictures — Dr. Lincoln

Laboratory Diagnosis — Dr. Marker

Case Findings, Tuberculin Tests and BCG — Dr. Davies

Indications and Methods of Treatment:

General Management — Dr. Lincoln

Specific Therapy — Dr. Lincoln

Antituberculosis Drugs — Dr. Marker

Indications For Surgery — Dr. Davies

Psychological Care — Dr. Marker

Educational and Recreational Needs and Rehabilitation — Dr. Davies



ANSWERING QUESTIONS



X-RAY SERVICES

POINT TO BE STRESSED: Condition under which benefits are allowed and the limits of such benefits.

I. DIAGNOSTIC

(A) ACCIDENT

To qualify:

1. Services must be rendered as the direct result of and within 24 hours of an accident.
2. Doctor need not be participating in the plan.
3. Services must be rendered in a doctor's office. (If rendered in a hospital it will be a B. C. benefit.)

Benefit: In accordance with the Schedule of Fees (P. 36 & 37) but not to exceed \$10.00 for any one accident.

(B) ALL OTHER

To qualify:

1. Services must be rendered within 60 days of commencement of directly related Surgical or Endoscopic Services which are eligible for benefits under the contract.
2. Service must be rendered by or under the supervision of a participating physician as part of his private practice.

Benefit: In accordance with the Schedule of Fees, but not to exceed fifteen (15) dollars allowance for any one illness or injury.

Total diagnostic X-Ray Benefits are not to exceed twenty-five (25) dollars for any one member in any period of 12 consecutive months.

II. THERAPY

To qualify:

Service must be rendered in lieu of surgery

or within 12 months of surgery for a directly related condition.

Benefit: In accordance with the Schedule of Fees (P. 37 & 38) but not to exceed \$25.00 for superficial therapy and \$125.00 for deep therapy in any period of 12 consecutive months.

Question: What do you mean by an X-Ray being directly related to a Surgical or some other procedure?

Answer: "Directly Related" as used in the Blue Shield contract means that as a direct result of an X-Ray having been taken surgery is indicated and performed.

Example: Doctor takes G.I. series and finds badly ulcerated stomach. As a result of these X-Rays, the patient undergoes surgery for the ulcer condition indicated by the X-Rays.

Question: Does Blue Shield pay for X-Ray services before the directly related surgical service is rendered?

Answer: No. Blue Shield suggests that doctors bill their patients within the month for those X-Rays which are to be followed by the related Surgical service. Benefits will be paid the subscriber, at the doctor's direction, at such time as the related service is eligible for benefits under the contract, and is performed within 60 days of the X-Ray.

Continued on page 65

COUNTY SOCIETIES

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President, Wirt L. Davis, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

AROOSTOOK

President, Arthur P. Reynolds, M.D., Presque Isle
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Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

AROOSTOOK

January 19, 1956

A meeting of the Aroostook County Medical Society was held at the Plymouth Hotel, Fort Fairfield, Maine on Thursday, January 19. At this meeting the society went on record as approving an increase in the State Society annual membership dues to \$50.00.

William T. O'Connor, M.D., of Eagle Lake, was elected to membership.

Delegates and alternates to the Maine Medical Association are as follows:

Delegates, Robert M. Gabrielson, M.D., Caribou; Harry M. Helfrich, M.D., Presque Isle, and Andrew Szendey, M.D., Fort Kent. Alternates, Clyde I. Swett, M.D., Island Falls; Philip Pines, M.D., Limestone, and Melvin R. Aungst, M.D., Fort Kent.

Dean Fisher, M.D., Commissioner of the State of Maine Department of Health and Welfare, was the guest speaker.

CLYDE I. SWETT, M.D., *Secretary*

LINCOLN-SAGADAHOC

January 17, 1956

A regular meeting of the Lincoln-Sagadahoc County Medical Society was held on Tuesday, January 17, 1956 at the Ledges Inn, Wiscasset, Maine. There were seventeen members and guests present. Thomas E. Proctor, M.D. of Boothbay Harbor, president of the society, presided at the business meeting.

The following officers were elected for the coming year:

President, Joseph I. Smith, M.D., Bath

Vice President, Stanley R. Lenfest, M.D., Waldoboro

Secretary-Treasurer, Everett D. Schubert, M.D., Wiscasset

Delegates to the Maine Medical Association, John F. Dougherty, M.D., Bath, and John F. Andrews, M.D., Boothbay Harbor. Alternate, Arthur A. Nichols, M.D., Wiscasset

Board of Censors, Jacob Smith, M.D., Bath; Virginia C. Hamilton, M.D., Bath, and Ralph C. Powell, M.D., Damariscotta

Francis A. Winchenbach, M.D. of Bath, District Councilor, announced that an increase in the Maine Medical Association dues will be considered at the next meeting of the House of Delegates and pointed out the various reasons for such an increase.

George L. Maltby, M.D., of Portland, presented a very practical paper on the emergency treatment of non-operative head injuries.

EVERETT D. SCHUBERT, M.D., *Secretary*

WASHINGTON

January 20, 1956

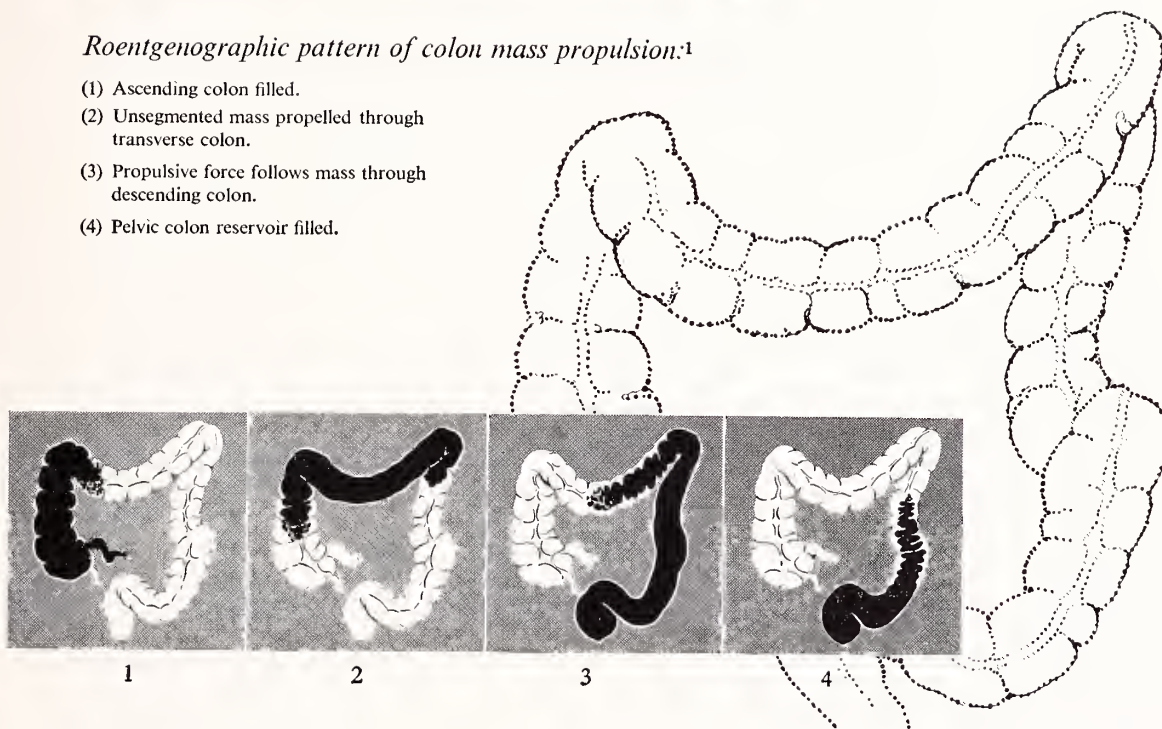
A regular meeting of the Washington County Medical Society in conjunction with the St. Croix Medical Society was held in the Charlotte County Hospital, St. Stephen, N. B., on Friday, January 20, 1956. There were eighteen members present. E. O. Thomas, M.D., president of the St. Croix Medical Society, presided at a very active discussion on adoption of a uniform fee schedule. Frederick Whitehead, M.D., of Fredericton, N. B., executive of the New Brunswick Medical Association, outlined the need for adoption of a uniform

Continued on page 66

SMOOTHAGE ACTION IN CONSTIPATION

*Roentgenographic pattern of colon mass propulsion:*¹

- (1) Ascending colon filled.
- (2) Unsegmented mass propelled through transverse colon.
- (3) Propulsive force follows mass through descending colon.
- (4) Pelvic colon reservoir filled.



Reestablishing Bowel Reflexes with Metamucil®

*Nervous fatigue, tension, injudicious diet, failure to establish regularity, too little exercise, excessive use of cathartics—all factors which contribute to constipation.*²

Sufficient bulk and sufficient fluid form the basic rationale of treatment of constipation. Metamucil (the mucilloid of *Plantago ovata*) produces a bland, smooth bulk when mixed with the intestinal contents. This bulk, through its mass alone, stimulates the peristaltic reflex and thus initiates the desire to evacuate, even in patients in whom postoperative hesitancy exists.

Correction of constipation logically, therefore, lies in the suitable adjustment of such factors as nervous fatigue and tension, improper intake of fluid, improper dietary habits, failure to respond to the call to stool, lack of physical exercise and abuse of the intestinal tract through excessive use of laxatives.²

The characteristics of Metamucil permit the correction of most of these factors: it provides bulk; it demands adequate intake of fluids (one glass with Metamucil powder, one glass after each dose); it increases the physiologic demand to evacuate; and

it does not establish a laxative "habit." Metamucil, in addition, is inert, and also nonirritating and non-allergenic.

The average adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, followed by an additional glass of fluid if indicated.

Metamucil is the highly refined mucilloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is supplied in containers of one pound—also four ounces and eight ounces. G. D. Searle & Co., Research in the Service of Medicine.

1. Best, C. H., and Taylor, N. B.: *The Physiological Basis of Medical Practice: A Text in Applied Physiology*, ed. 5, Baltimore, The Williams & Wilkins Company, 1950, pp. 579-583.

2. Bargen, J. A.: A Method of Improving Function of the Bowel, *Gastroenterology* 13:275 (Oct.) 1949.

SEARLE

Tuberculosis Abstracts^{*}

Issued By The National Tuberculosis Association

The Preservation of Lung Tissue in the Treatment of Pulmonary Tuberculosis

By Col. James H. Forsee, MC, U. S. Army, Military Medicine, August, 1955.

The surgical removal of tuberculous lung tissue in the present era of chemotherapy has revolutionized the treatment of pulmonary tuberculosis. Its use by the Armed Forces Medical Services has been so unprecedentedly good that treatment for this disease is only a temporary interruption in the career of military personnel.

The case history of patient "A," is illustrative of many which are similar. Patient "A," age 46, had his left upper lobe removed and a five-rib thoracoplasty performed in October, 1951, at Fitzsimons Army Hospital. He is well, returned to active duty in March, 1953, and has been on duty over a year. He states that he has no cough, pain or chest discomfort and maintains his normal weight. Frequent examinations give no evidence of reactivation of the disease and sputum and gastric washings are negative for *M. tuberculosis*.

He became ill in March, 1951, and in April the diagnosis of pulmonary tuberculosis was confirmed by the isolation of *M. tuberculosis* from the sputum. A 3 cm. cavity was demonstrated on roentgenographic examination. Hospitalization and streptomycin, 1 gram every third day and para-aminosalicylic acid, 12 grams daily, were started. Six months later there had been appreciable clinical improvement, a small cavity remained, and excisional surgery was done. At operation, the upper lobe contained numerous smaller nodules in addition to the cavity. In the lower lobe there were scattered nodular areas. To remove the visible and palpable tuberculous disease would have resulted in the loss of the entire lung and conservation of the lower lobe seemed feasible. Decreasing the size of the hemithorax by a five-rib thoracoplasty helped to prevent over distention of the remaining lobe and probably decreased the danger of reactivation of latent lesions. No visible deformity results from upper lobectomy and a five-rib thoracoplasty.

Preserving involved lung tissue without increasing the risk of disease activation is now being achieved largely through the use of streptomycin and other chemotherapeutic agents. These agents are effective in bringing about the resolution of recently developed, exudative lesions and in localizing the lesions which do not resolve. Moreover the protracted use of these drugs favorably influences the stabilization of tuberculous lesions, increasing their suitability for surgical extirpation. The amount of lung tissue needing removal is thereby decreased. The combination of certain chemotherapy agents has virtually eliminated the development of resistance to the drugs. Their use for extended periods following surgery has an additive effect of insuring permanency of inactivation of any remaining disease areas.

The removal of an entire lung has, in our experience, seldom been indicated. Pneumonectomy has been performed in less than five per cent of more than 900 tuberculous patients treated by excisional surgery since January 1, 1947. Usually the less involved lower lobe has been retained and only the

more extensively involved upper lobe removed. Two hundred sixty-one patients were treated by lobectomy during the period 1947-1952, and in the vast majority there was appreciable disease in the remaining lung tissue on the operated side. Ninety per cent of these patients are now well, and working or able to work. Pneumonectomy has been reserved for those patients who have a severe stenosis of the main stem bronchus which is usually associated with an extensively destroyed lung.

The retention of minimally involved segments of a lobe and removal of the more involved broncho-pulmonary segments of the lobe is greatly increasing the feasibility and practice of returning military personnel to active duty after being treated for tuberculosis. This increase is shown by the fact that while during 1947-49 only 25 patients were treated by segmental resection, since January 1, 1953, 185 patients have received this form of surgical therapy. In 75 per cent of the segmental resections, the apical and posterior portions of the upper lobe were removed. Segmental resection is strongly recommended for the removal of proved or suspected lesions which are unpredictable. This is far safer than permitting them to remain.

The surgical removal of residual foci by simple wedge excision also conserves lung tissue. Lesions suitable for wedge excision are usually situated peripherally and immediately subpleural. They represent either the residual foci of previously larger areas of disease or they may have been present and unchanged for months or years. None of the patients treated by wedge excision were classified as far advanced. If *M. tuberculosis* are demonstrated in the excised tissue, the patient is treated as having active tuberculosis, including chemotherapy and bed rest. If the lesion is a granuloma of non-tuberculous etiology, a protracted period of hospital care is unnecessary.

The need for the surgical extirpation of these foci, is based on several factors. An appreciable percentage of roentgenographically similar lesions are neoplastic. One cannot predict accurately whether or not the specific organisms are contained in the given lesions. We know that small lesions become larger ones and minimal disease is often the fore-runner of a far advanced process. The meticulous study of a group of approximately 500 patients with minimal tuberculosis followed for a minimum of a five-year period revealed that 50 per cent suffered relapse. The surgical excision of these small lesions is feasible and practical and the mortality has been comparable to the removal of a diseased appendix.

There is strong evidence that the present increase in the incidence of surgical therapy will be continued and that there will be relatively few tuberculous patients who will not be benefited by proper surgery. The surgeon who successfully treats tuberculous patients properly employs the guidance of his associates and becomes a member of the tuberculosis therapy team which has replaced the one-man tuberculosis expert. In addition, the surgeon must painstakingly maintain follow-up studies for a protracted period on each patient before final assessment of treatment.

Modern military medicine effectively utilizes the tuberculous therapy team. A few hospitals have been staffed with

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experts in their respective fields interested in the care of tuberculosis patients, including rehabilitation. With these facilities, those properly motivated are returning to duty. Most of the military personnel are able to resume active duty following hospitalization and rehabilitation.

In military service the plan of roentgenographic examination at frequent intervals, such as induction, annual physical examination, separation from the service, reenlistment, admission to hospital and prior to overseas assignment provides the opportunity for the early detection of pulmonary diseases and contributes greatly to the good results being obtained in the treatment of pulmonary tuberculosis in military personnel.

The results of a policy of conserving lung tissue in pul-

monary tuberculosis have been almost phenomenal. Of 165 patients on whom follow-up studies of two and one-half years or more are available, three patients are dead; only one had active tuberculosis at the time of death. Data on two patients are inadequate. Of the remaining 160 surviving patients, 98.7 per cent are well, and working or able to work. Pulmonary tuberculosis in military personnel of the United States is now being detected early and is usually a readily manageable disease which only temporarily interrupts their careers.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

Answering Blue Shield Questions

Continued from page 61

Example: The doctor takes a gall bladder X-Ray on December 10th. Gall stones are found and the surgeon on the case recommends surgery. However, the patient does not want to undergo surgery until after the holidays and the surgeon agrees that such a delay is all right. The operation is scheduled for January 9th and performed on that date. In this case the radiologist bills the subscriber.

The surgery would qualify for Blue Shield benefits and therefore the X-Ray service would also qualify as a Blue Shield benefit. A claim for the X-Ray service

would now be processed and payment made to the doctor, or the subscriber if the doctor so directs.

Exceptions IF — the patient's contract had a rider placed on it for treatment of gall bladder at the time application for membership was made, **NO BENEFITS WOULD BE ALLOWED.**

Example:

IF — the condition was known to exist at the time of application, or indicated a need for treatment and was not declared on the health statement of the application **NO BENEFITS WOULD BE ALLOWED** during the first year of enrollment.

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Indicated wherever oral
cortisone or hydrocortisone
is effective • Available in 5 mg.
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requires only 1/5 the dose of cortisone

*Trademark for the Upjohn brand of prednisone (delta-1-cortisone)

County Society Notes

Continued from page 62

schedule. Active leaders in the discussion were John Metcalf, M.D., of Calais, Maine, chairman of the District Committee, and E. B. Johnston, M.D., of St. Stephen, N. B., chairman of the local committee.

The second part of the program was under the direction of Dr. Johnston, president of the Washington County Society. Dean Fisher, M.D., Commissioner of the State of Maine Department of Health and Welfare, was the guest speaker. Dr. Fisher outlined the entire work of his department which embraces all state welfare to young and old, as well as tying in closely with local welfare, including such diversified organizations as Tuberculosis Sanitariums and Indian Reservations. He spoke more specifically on problems that the medical profession deal with, such as Hospital Aid and Old Age Assistance. Dr. Fisher was able to give a definite answer to many local problems and the members of the profession were very thankful for his help.

A very excellent dinner was enjoyed at the Dover Hill Inn, St. Stephen, N. B.

The wives of the members enjoyed a very pleasant social afternoon and evening at the home of Dr. and Mrs. A. D. Dyas in St. Stephen, N. B.

KARL V. LARSON, M.D., *Secretary*

YORK

January 11, 1956

The annual meeting of the York County Medical Society was held at the Kennebunk Inn, Kennebunk, Maine on Wednesday, January 11. There were twenty-seven members and two guests present. A delicious steak dinner was enjoyed following a social hour.

Frank W. Barden, M.D., of Biddeford, and Mr. Clarence Hartley, presented an interesting discussion on Civil Defense. This was followed by movies of a mobile hospital.

It was voted to go on record that the doctors of the York County Medical Society are 100% in favor of Civil Defense.

L. Dean Webber, M.D., of Kittery, was accepted to membership.

The following officers were elected for the coming year:

President, Louis C. Lesieur, M.D., Saco.

Vice President, Marion Moulton, M.D., West Newfield

Secretary-Treasurer, Charles W. Kinghorn, M.D., Kittery

Delegates to the Maine Medical Association, Paul S. Hill, M.D., Saco; James H. Macdonald, M.D., Kennebunk, and Carl E. Richards, M.D., Sanford. Alternates, William T. Roussin, M.D., Biddeford; Melvin Bacon, M.D., Sanford, and Roger J. P. Robert, M.D., Saco.

Resolutions Committee, Robert D. Vachon, M.D., Sanford; J. Robert Downing, M.D., Kennebunk, and Carl M. Haas, M.D., Biddeford.

Publicity, Frank W. Barden, M.D., Biddeford.

Censors, Stephen A. Cobb, M.D., Sanford; Maurice Ross, M.D., Saco, and Robert F. Ficker, M.D., Kennebunkport.

CHARLES W. KINGHORN, M.D., *Secretary*

NEW MEMBERS

AROOSTOOK

William T. O'Connor, M.D., Eagle Lake

CUMBERLAND

Claude A. Burnett, M.D., Portland

Michael L. Weaver, M.D., 32 Federal Street, Brunswick

PENOBSCOT

George I. Wilson, M.D., 268 State Street, Bangor

YORK

L. Dean Webber, M.D., Kittery

News and Notices

Annual Meeting New England Pediatric Society

The annual meeting of the New England Pediatric Society will be held on Wednesday, March 21, 1956.

The morning and afternoon sessions will be held at the Science Park Museum, Science Park, Boston, with Allan M. Butler, M.D., as host.

The evening meeting will be held at Longwood Towers. The speaker will be Alan Ross, M.D., Professor of Pediatrics, McGill University, Physician-in-Chief, Montreal Children's Hospital, Montreal, Canada. Dr. Ross will talk on "The Infant and Child in Hospital."

LOUIS K. DIAMOND, M.D., *President*
HARRY SHWACHMAN, M.D., *Secretary*

Medical and Dental Symposium

A three-day Medical and Dental Symposium for the Armed Services has been scheduled for March 21, 22, and 23, 1956. The theme topic is Developments in Military Medicine and Dentistry with Special Emphasis on atomic Warfare, Special Weapons, and Isotopes.

The meeting on the first day will be conducted at the U. S. Naval Hospital, Chelsea, Massachusetts. On the mornings of

the second and third days clinics will be scheduled at various hospitals in the city of Boston on the Treatment of Diseases with Radioactive Isotopes. Afternoon lectures will be given at the Jimmy Fund Foundation Building and in the auditorium at the New England Deaconess Hospital.

Programs and additional information may be obtained by addressing the District Medical Office, First Naval District, 495 Summer Street, Boston 10, Massachusetts.

This Symposium has been approved for retirement point credit for those in attendance who are on the Active Status List in the Armed Services Reserve Programs.

Twenty-Ninth Annual Spring Congress in Ophthalmology, Otolaryngology and Allied Specialties

The annual Spring Congress in Ophthalmology, Otology, Rhinology, Laryngoscopy, Facio-maxillary Surgery, Bronchoscopy and Esophagoscopy, will be held at the Gill Memorial Eye, Ear and Throat Hospital, in Roanoke, Virginia, April 2 to 7, 1956.

For additional information write to — E. G. Gill, M.D., Box 1789, Roanoke, Virginia.



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Intubation In Intestinal Obstruction

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JOELLE C. HIEBERT, M.D.**

The treatment of intestinal obstruction is intriguing and requires, in many instances, great ingenuity. The proper use of long or short intestinal tubes may be curative, but frequently surgery is necessary to relieve the obstruction. In any case, close cooperation between the internist, radiologist and surgeon will be more fruitful than any single-handed effort. This paper is intended to review some of the basic features of intestinal obstruction and to suggest appropriate methods of treatment.

When a patient is first suspected of having intestinal obstruction, all efforts should be made to determine the type of stoppage present. Is it a simple mechanical blockage or is it a "strangulating obstruction"?

In the first instance the bowel is rendered incapable of propelling its contents by virtue of a mechanical blockage or the loss of muscle tone of its wall. The symptoms produced by such an event classically consist of pain, not well localized, followed by borborygmus, distention, vomiting, and dehydration with ensuing electrolyte imbalance. The exact symptoms seen will

vary with the level of the obstruction. Obstruction of the duodenum at the pylorus is characterized by persistent vomiting while obstruction low in the ileum will produce considerable distention of the abdomen before vomiting occurs. Generally speaking, a slowly developing obstruction low in the intestinal tract will produce marked abdominal cramps before the onset of clinically detectable distention.

In the presence of a "strangulating obstruction" the onset of symptoms is prompt. In this instance a loop of bowel has usually passed through a small aperture or become twisted on itself and the circulation of the bowel wall is compromised. The patient will usually complain of pain in one area and evidence of peritoneal irritation will be found on physical examination. It will be possible to elicit cough, rebound and percussion tenderness. In addition, the patient will exhibit the classical signs of simple mechanical obstruction mentioned above.

As stated earlier, it is important to differentiate between the two types of blockage because in simple mechanical obstruction the use of a tube and general supportive measures may be curative; whereas, in "strangulating obstruction" immediate surgical intervention is indicated although a short pre-operative period of

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FIG 1 — Tip of Miller Abbott tube located in the proximal ileum (Barium in these films is a residuum from a previous Barium Enema).



FIG. 2 — Later film showing tube further in ileum. Constant gas shadow seen around tip.

intubation may render the anesthesia safer, the operation easier and the postoperative course more comfortable.

Patients with intestinal blockage should be watched carefully for signs of developing strangulation. The white blood count, the temperature, changes in the nature of the patient's distress, or the appearance of cough, rebound or percussion tenderness are useful indications of developing peritoneal irritation.

The proper choice and use of an intestinal tube is important. Post-operative ileus is the commonest cause of intestinal obstruction. A simple Levine tube inserted on the morning of surgery and left in place for 24 hours will not cure the condition, but it will lessen the symptoms produced by it. In addition the danger of aspiration is greatly lessened. The tube is particularly useful in procedures about the upper gastrointestinal tract, including gallbladder surgery.

A long intestinal tube is useful in treating simple mechanical obstruction. The so-called Miller-Abbott tube is the most widely used. Its value depends on the care with which it is prepared and managed. The balloon should be tied on personally by a physician. The capacity of the balloon should be around thirty to fifty cc. The patency of each "side" of the tube should be established and a label should be tied to the metal adapter for easy identification. After the tube has been passed to the stomach, efforts to advance the tube into the duodenum should be made. One or two cc. of

mercury instilled into the balloon may divert the tip of the tube toward the pylorus if the patient is placed on his right side. When the duodenum has been entered, the nature of the aspirate will change from the clear and colorless secretions of the stomach to the characteristic golden color of bile.

At this point a simple antero-posterior x-ray of the abdomen with the patient in the supine position will be of help. If the tube is in the second or third portion of the duodenum, the balloon may be inflated with thirty or forty cc. of air. Progress of the tube will now depend on the amount and nature of intestinal motility and is readily determined by follow-up plain films of the abdomen. The tube must never be taped to the patient's nose and should be advanced 2 or 3 inches an hour. A small amount of mineral oil applied to the tube at the nose will facilitate its passage.

The tube must be irrigated every few hours to insure patency. A daily x-ray will show the progress of the tube, as well as the state of the intestinal distention. Following decompression, the etiology of the obstruction can often be determined by instillation of barium through the intestinal tube under fluoroscopy.

The following two cases from the Central Maine General Hospital demonstrate complications which can be met during intestinal intubation. In these cases films were taken prior to the introduction of the intestinal tube.

J. A. was examined and dilated loops of small bowel



FIG. 3 — Ba. instilled through tube, showing failure to pass distal to tube. Gas shadow again seen.

and proximal large bowel were noted and a diagnosis of intestinal obstruction at the mid-colon was made. Following this a Miller-Abbott tube was passed and subsequent examination showed the tip of the tube in the small bowel, probably in the proximal ileum, (fig. 1). A gas shadow was noted surrounding the tip of the tube, presumably the gas-filled, mercury-containing balloon. The gaseous distention of the bowel was somewhat decreased but still present. Five days later a repeat examination (fig. 2) showed the tube slightly further along in the ileum and the persistence of the distention. At this time the gas shadow surrounding the tip appeared larger and because of this and the failure of the decompression, fluoroscopic examination with instillation of barium was performed (fig. 3). None of the barium passed beyond the tip of the tube and on attempted removal of air from the balloon it was found that air could be forced in but not withdrawn. Attempted removal of the tube at this time was also unsuccessful. Because of the consistent relationship of the balloon to the same loop of bowel, and the inability to remove either the air or the tube, a diagnosis of impaction of the balloon was made and surgical intervention suggested.

On opening the abdomen the balloon was seen in the proximal ileum and the bowel wall immediately surrounding the balloon was discolored and gangrenous. Attempts were made to rupture the balloon, including instillation of ether from above. When no other meth-

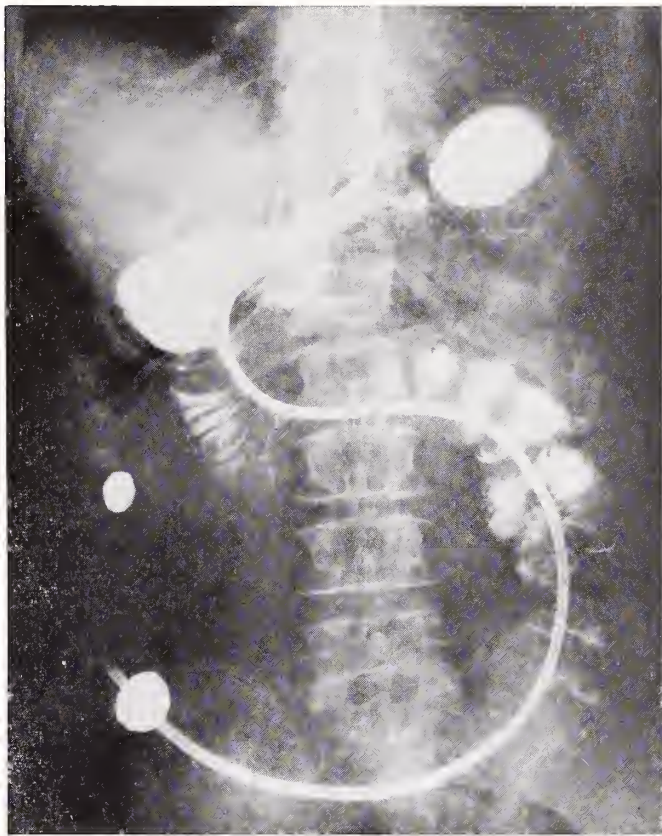


FIG. 4 — Showing Harris tube extending down into the distal ileum with injected barium showing telescoping of bowel on tube.

od of deflation could be found, a needle was finally inserted through the bowel wall into the balloon, and the latter deflated and withdrawn. A side-to-side anastomosis was then performed, sidetracking the gangrenous loop of bowel.

On reviewing the literature it has been found that not much has been written about this complication of intubation therapy. Harris³, however, has described a possible cause for overdistention of the balloon — namely, diffusion of carbon dioxide and hydrogen sulfide into the balloon in an attempt to obtain osmotic equilibrium. This occurs only after the tube has been left in place for some time, usually 10 days or more. Another possible explanation for the overdistention is inadvertent over-filling of the balloon during lavage. This complication can in many cases be avoided by the use of a single-lumen tube of the type described by Harris⁴ or Cantor⁵. Also, if intubation is to be carried over a prolonged period of time, the tube should be changed at frequent intervals.

The second case, C. P., was examined, and though no definite evidence of intestinal obstruction was noted, a Harris tube was passed because of persistent vomiting. Again the tube passed the pylorus without difficulty, but was seen to take a very anomalous course. An oral barium study (fig. 4) was performed and no definite pathology was noted. A plain film taken several days later revealed the tip of the tube slightly more distal, at the area of the ileo-cecal valve (fig. 5). At



FIG. 5 — Small bowel is now completely telescoped on tube, the tip of the tube having passed through the ileocecal valve. Retouched to demonstrate telescoping noted on original film.



FIG. 6 — Following release of the tube from above and passage through the proximal large bowel. The umbilical tape which was attached to the proximal end of the tube is seen outlined with barium.

this time a soft tissue outline of the small bowel could be seen crimped up along the intestinal tube, and on review of the barium study this same picture was seen, though to a less pronounced degree. At this time the tube was cut at the level of the nose and allowed to pass since it could not be removed from above. The final film (fig. 6) shows the tube moving along in the large bowel.

It has been noted that if the balloon passes beyond the ileo-cecal valve it will be very difficult, if not impossible, to remove from above. For this reason it has been recommended that no more than two and one half feet of tube be allowed to pass beyond the pylorus⁵. It is interesting to note, however, that in this case, there was only about 18 inches of tube beyond the pylorus. The entire small bowel became pleated on the tube permitting passage of the balloon through the ileo-cecal valve. Although this is a very rare complication it is well to bear it in mind during intubation so that it may be recognized early and corrected.

SUMMARY

The clinical features of intestinal obstruction and indications for intubation have been presented and two of the rarer complications of intestinal intubation have been demonstrated and discussed and recommendations made for prevention of these complications.

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Bromide Intoxication

CHARLES A. HANNIGAN, M.D.*

CHARLES AMBROSE, M.D.**

The purpose of this paper is to report two cases of bromide intoxication and to re-emphasize its importance as a factor in mental disease.

FIRST CASE REPORT

This 58-year-old white female was first seen at home on October 8, 1955. She was depressed, apathetic, and confused to the extent that she could not give a history. Her family stated that she had been having episodes of depression and increased activity for about 3 years. Three months prior to consultation her physician had prescribed one teaspoon of Neurosine (12 grains of bromide to the teaspoon) three times daily for restless, nervous behavior. One month later she became weak and depressed; these symptoms increased to such an extent that she could not get out of bed or eat. During the previous week her family stated that she had been talking nonsense.

Past history revealed that she had had rheumatoid arthritis for 16 years and for the previous year had had difficulty walking without help.

Mental examination showed her to be confused, uncooperative and withdrawn with flat mood and affect. She denied paranoid ideas. She admitted auditory hallucinations. She avoided looking directly at the examiner and stated she didn't think he was a doctor.

Physical examination was noncontributory except for marked rheumatoid deformities of the hands, wrists, elbows, knees, and hips.

Treatment was carried out at home. The Neurosine was stopped and fluids were forced. Two days later she was eating well and able to sit in a chair. A serum bromide level at this time was 195 mg. per cent. Seven days later she was as active as she had been prior to the use of bromides; however, she was still somewhat depressed. Five weeks after the first visit she appeared to be in a normal mental state, but her family stated she still was depressed at times.

The final diagnosis was agitated depression with a bromide induced psychotic reaction.

SECOND CASE REPORT

This 73-year-old white female was admitted to the Central Maine General Hospital September 10, 1955, because of bizarre behavior with increasing unmanageability.

The history was obtained from her 75-year-old sister who appeared to be reliable. Four years prior to admission the patient had had paranoid ideas about her fellow workers. Seven months prior to admission she developed paranoid ideas about her landlady and landlord. She was irritable at times and sleepless. She had hallucinations. Six months prior to admission she had several episodes of vomiting for which her physician prescribed sedation with barbiturates and bromides. Her mental symptoms seemed to become more pronounced. Six weeks before admission both she and her sister started taking Dr. Miles' Nervine (6 grains of bromide per teaspoon) and in this period consumed two to three 8 oz. bottles. The patient became disoriented and extremely difficult to manage. During the night she was often observed to be talking to deceased relatives and religious figures.

On admission she was disturbed and actively hallucinating. At times she would appear to be greatly frightened by her own hallucinations and try to escape.

Physical examination was unremarkable except for an oral temperature of 101.6 degrees. Blood pressure was 120/84.

Laboratory data were as follows: Hb, 83 per cent; white blood cell count, 7200 per cu. mm. with a normal differential; B.U.N., 8.8 mg. per cent; serum chloride, 105 m.e.q. per liter; serum bromide, 151 mg. per cent; V.D.R.L. test for syphilis, negative; urine, normal; stool, guaiac negative; chest x-ray, normal; lumbar puncture, no increase in pressure, normal dynamics, no cells, protein 23.2 mg. per cent, colloidal gold curve flat.

During her hospital stay she continued to hallucinate and exhibit psychotic behavior. Treatment included paraldehyde, oral ammonium chloride, parenteral saline, and Mercuhydrin. During the last week in the hospital, Thorazine in a dose of 25 mgm. every 6 hours was given. This drug had not been used earlier because it was felt that it might aggravate her condition. She appeared to be more tractable during the last 5 to 6 days of hospitalization. After 12 days of hospitalization and with her bromide level at 37 mg. per cent she was transferred to a psychiatric hospital for further care. Her discharge diagnoses were — senile psychosis with cerebral arteriosclerosis and bromide intoxication aggravating the pre-existing psychosis.

A follow-up report revealed that during her first few days at the Augusta State Hospital she was confused, noisy and disturbed. During this time paraldehyde was stopped and the Thorazine dosage was increased to 50 mg. every 6 hours. After 4 days of this regimen

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she became cooperative and mingled with the other patients. By the end of four weeks she was able to attend occupational therapy classes. After 10 weeks of hospitalization she was discharged on Thorazine with the diagnosis of psychosis with cerebral arteriosclerosis complicated by bromide intoxication.

COMMENTS

The first patient's mental state definitely deteriorated on bromides and progressed to a psychosis. Treatment which consisted of withdrawal of bromides and forcing of fluids was followed by prompt recovery.

The second patient was undoubtedly psychotic before bromide medication. She apparently was greatly improved following completion of therapy for bromism. Her recovery was not so prompt as in the first patient; however, it has been stated that three weeks or more of treatment may be needed for complete clearing of the mental symptoms of bromide intoxication⁽¹⁾. There is also a good possibility that part of her improvement may have been due to Thorazine.

Each of the patients had a mental disturbance prior to treatment with bromides; in fact, its use was for the treatment of pre-existing mental symptoms. Because bromides had been used to control these symptoms, the decision initially as to whether the worsening of symptoms was due to the basic disease or bromide intoxication was made rather difficult. A final decision was made possible only by the response to treatment. Mindful of these difficulties, some authorities would interdict the use of bromides to control early symptoms of mental disease⁽²⁾.

Interest in bromides as a cause of mental disturbances was stimulated by Wuth's report in 1927 that 21 per cent of 238 admissions at the Henry Phipps Psychiatric Clinic had elevated blood bromide levels and of the 238 patients 8 per cent showed clinical evidence of bromide intoxication⁽³⁾.

The medical profession should be particularly aware of the potentialities for harm of bromide medication since many cases of bromide intoxication develop under medical supervision. Because of the easy availability of proprietary bromide preparations — and these do not

always reveal their bromide nature in their name — the physician should be alert to the possibility of bromides as a factor in any mental disturbance and particularly in a bizarre and patternless one.

The diagnosis of bromide intoxication is presumptive in any one with mental symptoms and a history of bromide medication. It is a more tenable diagnosis if the serum bromide level is over 75 mg. per cent. The diagnosis is confirmed if symptoms disappear or are ameliorated with treatment.

The most important step in treatment is recognizing the possibility of bromism and withdrawing bromide medication. All other procedures are aimed at increasing the rate of bromide excretion. Maintaining a large urine volume is very important. Use of large amounts of sodium chloride or ammonium chloride is recommended in the belief that the added chloride will hasten bromide excretion in the urine. Mercurial diuretics are used to increase bromide excretion in the urine. Actual removal of bromide from body fluids has been attempted with gastric lavage and with extracorporeal hemodialysis.

It is necessary at times also to sedate these patients and paraldehyde has been considered the safest drug. In the patient in whom Thorazine was used there seemed to be some beneficial effect and reports of its use in similar patients should be of interest.

CONCLUSIONS

1) Two cases of chronic bromide intoxication have been presented.

2) It is emphasized that bromide intoxication must still be considered in the etiological diagnosis of mental disease.

3) Thorazine appears to be of value in controlling mental symptoms of bromism.

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Some Uses of Paper Electrophoresis in a Clinical Laboratory

M. A. CHAPIN, Ph.D., M.D.*

Electrophoresis is a term signifying migration of substances in a medium through which an electric current is passing. Separation and measurement of the various protein fractions of serum and plasma was described by Tiselius 18 years ago. His now classical (free, moving boundary) method employed a buffer solution through which the protein fractions were dispersed and measured by refractometry. While much important information with respect to protein has been obtained by this method, its time-consuming technic and its complicated, expensive apparatus have precluded any general clinical adoption of the method.

In the past 7 years, methods of electrophoresis^(1, 2) employing ordinary filter paper as a supporting medium have been described. The apparatus required in this adaptation of the method is relatively simple and inexpensive. It permits rapid simultaneous analyses of multiple undialyzed samples and requires very little serum. It is finding increasing use in hospital laboratories, both in clinical medicine and in investigative work, as a means of study and identification of the various components of the protein-containing body fluids. With varying technic^(3, 4), it is possible to separate and identify not only the protein fractions but their associated lipid and carbohydrate combinations as well.

The normal variations of these protein-lipid-carbohydrate complexes in health and their changes in different diseases, as well as in different stages of the same disease, have been under study in this laboratory during the past 2 years. It is the purpose of this paper to describe the method briefly, to show some examples of serum electrophoretic patterns which demonstrate the changes that may be found, and to indicate their value in diagnosis.

METHODS AND MATERIALS

The serum used for each examination was obtained from the venous blood of patients in the fasting state and refrigerated until used.

The method of paper electrophoresis which was used was similar to that described by Kunkel and Slater⁵. Whatman 3 MM filater paper strips, 1½ by 9 in., and 3 or more in number, were superimposed on each other, moistened with barbital buffer (pH 8.6, ionic strength 0.1 u), partially blotted, then inserted between thick

glass plates having siliconized surfaces, and the paper ends placed in contact with end buffer compartments holding platinum electrodes. Lead weights giving a pressure of 2 lbs. per sq. in., were placed on the top glass plate and the sides of the plates sealed with Scotch tape. Current applied was usually 7 ma through a variable source of 130-150 volts for 30 minutes to allow establishment of equilibrium within the paper. The apparatus was then dismantled and the top glass plate removed. To each paper strip, 2¼ in. from one end, was placed 0.04 ml. serum as a thin band, reaching nearly across the paper. The apparatus was then re-assembled and current applied for the usual period of 48 hours at which time the albumin band front would have migrated 4-5 in. from the point of application. The paper strips were removed and dried in an oven at 100°C. for 20 minutes to denature and to fix the protein to the paper.

One strip was stained for protein by immersion for 2 minutes in ethanol saturated with mercuric chloride and containing 1 per cent brom phenol blue. It was then rinsed in 0.5 per cent acetic acid until all unstained paper was of normal whiteness. Brom phenol blue stains the protein bands a deep blue which can be enhanced by ammonium hydroxide vapor. The normal distribution of gamma, beta, alpha 2 and alpha 1 globulins and albumin were thus visualized.

Another strip was stained for lipid by immersion in 50 per cent ethanol containing Sudan Black B, according to the method of Swahn⁶. This dye is unique in that it stains only the lipid bands on the paper by virtue of its greater solubility in the lipid than in its own alcohol solution under these conditions. Excess dye was removed by successive immersion in 4 containers of 40 per cent ethanol for 15 minutes each. After air-drying, the lipid in the beta and alpha 1-albumin areas were visible as blue bands, with that in the beta area being the larger and the more intensely stained of the two.

A third strip was stained for protein-bound carbohydrate by Kōiw's modification of the Hotchkiss histochemical method⁷, using periodic acid and fuchsin sulfite. The carbohydrate bound to protein was thus visualized as violet-red to purple bands.

The use of a photoelectric densitometer with appropriate filters (630 mu for the protein and lipid strips and 540 mu for the carbohydrate) permitted establishment of curves relating the optical density and the distance along the paper. The resulting electrophoreto-

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grams (EPGs) demonstrate the relationship of lipid and carbohydrate to certain protein bands. Thus, normally, most of the serum lipid appears to be bound to the beta globulin (beta lipoprotein) with a much smaller amount in the alpha 1 globulin-albumin areas (alpha lipoprotein). Carbohydrate is present in each of the protein bands and, normally, appears to predominate in the beta, alpha 2 and alpha 1 globulin bands. Figure 1 illustrates the protein, lipid and carbohydrate stained strips from the serum of a healthy young female technician. The composite electrophoretogram under the strips demonstrates the curves obtained by densitometric measurements. Division of each curve into its component fractions and measurement of the area of each fraction with a compensating polar planimeter, serves as a method for calculation of the percentage composition of each fraction. For purposes of comparison, these values may be expressed in per cent, or if the serum concentration is known, the grams per cent of each fraction may be calculated. Table I lists the values obtained for the distribution of protein, lipid and carbohydrate in each of the fractions of the different sera with individual patterns illustrated in Figures 1 through 6.

RESULTS

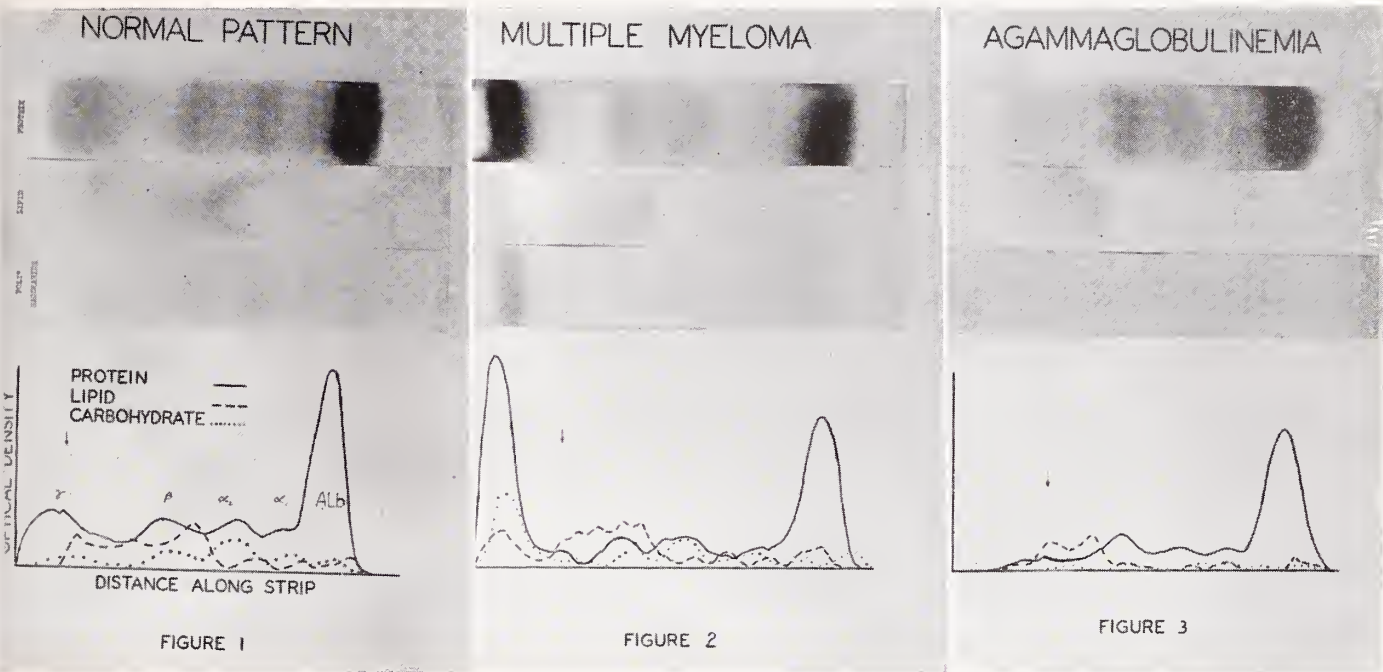
The following examples of the application of paper electrophoresis show the changes that may be found in the serum proteins and in the protein-bound lipid and carbohydrate in different diseases.

1. *Multiple myeloma.* The EPG in myeloma is usually quite characteristic and consists of a tall narrow peak in the curve usually in the gamma globulin area (less commonly in the beta and rarely in the alpha areas) corresponding to the deeply straining abnormal band as visualized on the paper strip. No other disease is known to give this peculiar pattern, which was found by Conn⁶ to be diagnostic in 78 per cent of patients with myeloma. Electrophoresis of urine containing Bence-Jones protein likewise gives the same tall narrow peak, showing it to have the same electrophoretic mobility as the abnormal globulin of the serum, thus indicating their relationship. Another unusual feature of this abnormal globulin in myeloma consists in its high content of lipid and carbohydrate, clearly seen in the patterns illustrated in Figure 2. The lipid component is only slightly soluble in hot Bloor's reagent (which normally

Distribution of Protein	Electrophoretic Separation									Total protein gm%			
	gamma		beta		alpha - 2		alpha - 1		albumin				
	%	gm%	%	gm%	%	gm%	%	gm%	%		gm%		
Normal	17.8	1.37	15.5	1.20	12.0	0.92	5.3	0.41	49.5	3.82	7.7		
Multiple myeloma	42.9	5.14	7.1	0.85	10.1	1.21	3.8	0.45	36.2	4.35	12.0		
Agammaglobulinemia	5.5	0.24	17.9	0.77	9.6	0.41	6.9	0.30	60.1	2.58	4.3		
Nephrotic syndrome	12.8	0.49	20.8	0.79	28.8	1.10	5.3	0.20	32.1	1.22	3.8		
Hepatic cirrhosis	39.5	2.09	12.4	0.65	8.4	0.45	5.9	0.31	34.1	1.80	5.3		
Hodgkin's disease	20.2	1.13	20.2	1.13	20.2	1.13	10.7	0.60	28.9	1.63	5.6		
Distribution of Lipid*											TC	TPL	TL
Normal			79				21				190	232	625
Multiple myeloma	20		59		9		12				50	146	295
Agammaglobulinemia			78				22				105	185	460
Nephrotic syndrome			95				5				472	598	2720
Hepatic cirrhosis			79				21				129	195	420
Hodgkin's disease			73				27				66	156	390
Distribution of Carbohydrate*													
Normal	5		24		30		16		10				
Multiple myeloma	49		8		19		10		14				
Agammaglobulinemia	7		20		27		27		20				
Nephrotic syndrome	7		13		62		14		3				
Hepatic cirrhosis	48		12		18		14		9				
Hodgkin's disease	8		11		37		38		6				

*Percentage values

TABLE I. Calculated values for the distribution of protein, lipid and carbohydrate established for the normal and disease states illustrated in Figures 1-6. TC, TPL and TL refer to total cholesterol, total phospholipid and total lipid, respectively.



removes all lipid from the strip) and is likewise nearly insoluble in hot acetone saturated with magnesium chloride. Since, normally, only the phospholipids are insoluble in the latter solvent, it may be assumed that this lipid is so firmly bound to protein and carbohydrate that its usual solubilities are not manifest. That it is lipid seems confirmed by the fact that Sudan Black B dissolves in it, because, as indicated above, this dye stains only lipid, and this only because of its solubility.

These and other studies⁷ indicate that the abnormal globulin present in the serum of patients with myeloma and presumably formed from plasma cells⁸, is both lipid and carbohydrate — rich, that it may have a varying electrophoretic mobility as a result of varying composition of its protein-lipid-carbohydrate components, and that it is excreted in the urine, perhaps damaging the kidneys in the process, to cause the so-called myeloma kidney⁹.

The diagnosis of multiple myeloma is often difficult to make until late in the course of the disease. Paper electrophoresis can therefore be used as another method for the earlier detection of this condition.

2. *Agammaglobulinemia*. This entity has been recognized in the past 3 years largely through use of electrophoresis. That it is not rare is suggested by the increasing number of case reports appearing in the literature. The first such case, reported by Bruton in 1952¹⁰, was that of a boy aged 8, who had had 18 bouts of sepsis with 8 different pneumococci, 5 episodes of otitis media and 3 attacks of epidemic parotitis. The electrophoretic demonstration of deficient gamma globulin established the cause of the boy's repeated infections.

Agammaglobulinemia is characterized clinically by a lack of natural resistance and repeated severe prolonged infections. It has a greater incidence in children (pos-

sibly since this disease has not permitted long life) but is occasionally found in adults. Laboratory studies show a low globulin on protein analysis, a low erythrocyte sedimentation rate and by a greatly diminished or absent gamma globulin, as shown by electrophoretic separation of the serum proteins. Since the gamma globulins contain the naturally occurring antibodies, this disease is self-characterized. It may be a congenital trait evidenced in childhood or an acquired deficiency in adults.

Figure 3 shows the patterns obtained from the serum of a 39-year-old woman who had had frequent colds with bronchitis since early childhood and a chronic productive cough since the age of 17. In subsequent years she had had an ischiorectal abscess, repeated severe upper respiratory infections with otitis media and bronchiectasis, several episodes of pneumonia, one complicated by meningitis, and numerous other infections. The cause of her difficulty was apparent when electrophoresis of her serum showed almost complete absence of the gamma globulin. With repeated injections of gamma globulin there was marked clinical improvement, the otitis media cleared, no further acute infections appeared and the chronic cough became less productive.

Absence of gamma globulin should be suspected in adults as well as in children with multiple respiratory and other infections, and perhaps in sprue-like syndromes¹¹. Since this defect can apparently be corrected by replacement therapy, its diagnosis is of great importance. Suspected cases may be screened by a determination of the isohemagglutinin titers, since persons with a measurable titer do not have an absence of gamma globulin; however, the demonstration of this defect by paper electrophoresis would seem more certain proof.

3. *Nephrosis*. The EPG in nephrosis and the nephrotic syndrome are also quite characteristic. The protein curve shows a diminished albumin and gamma

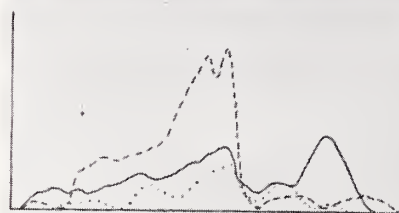
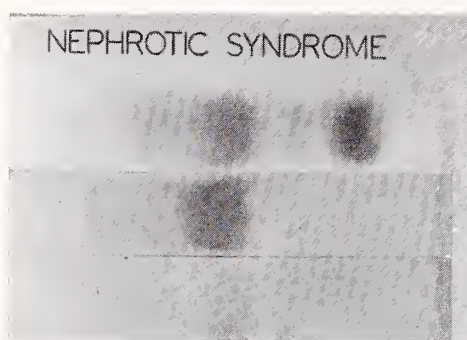


FIGURE 4

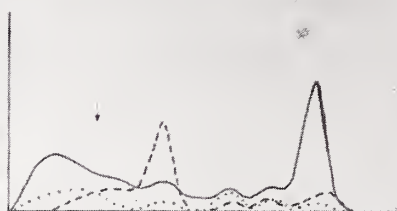
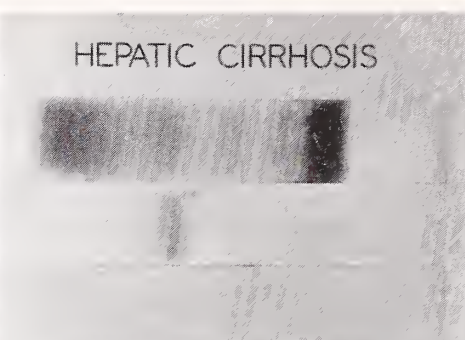


FIGURE 5

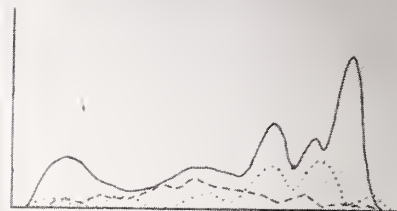
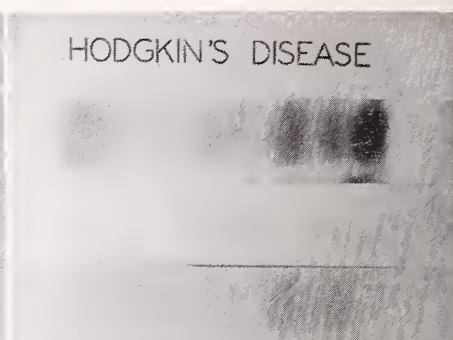


FIGURE 6

globulin (the latter effect, as discussed above, may portend the known increased susceptibility to infections in such diseases), while the beta and alpha globulins are considerably increased, this increase being associated with an increase of both lipid and carbohydrate. While the mechanism of this change in protein distribution is not known, investigation of the serum before and after spontaneous remission have shown that these patterns return toward the normal⁸.

Figure 4 shows the patterns obtained from the serum of a 60-year-old, obese widow who had had generalized edema of body and extremities for nearly a year. Pertinent laboratory tests revealed mild chronic glomerulonephritis as the cause of her nephrotic syndrome. Mild diabetes mellitus was also found. Her response to adequate clinical management was good with a loss of nearly 100 lbs. in an interval of 3 weeks. Serum patterns reflecting her status before and after diuresis showed little change, remaining characteristic of the nephrotic syndrome.

4. *Hepatic cirrhosis.* With hepatic cirrhosis, the serum patterns appear to vary according to the extent of severity of the process. With severe involvement, the albumin is diminished and the gamma globulin increased, associated with some diminution of the alpha globulins. This saddle-like curve seems fairly characteristic of the protein changes. The lipids are usually decreased and the gamma carbohydrate somewhat increased. These changes are less evident with less severe hepatic involvement. In comparison, biliary cirrhosis gives patterns with less protein changes and with a very high peak showing for the beta lipoproteins, the alpha lipids being diminished or nearly absent, those in the beta area increased.

Figure 5 shows the serum patterns of a 66-year-old woman with Laennec's cirrhosis of 5 years' duration,

associated with hepatomegaly, ascites and edema and slight jaundice for the last year of her life. The serum total protein was 4.8 gm. per cent and the bromsulphalein retention 35 per cent during the terminal stage.

5. *Hodgkin's disease.* Abnormal patterns may be found in all lymphomas and, in general, are more striking the more marked the disease state is at the time of examination. Following adequate therapy with clinical response of the patient to x-ray therapy or HN2, there is a tendency for abnormal patterns to return toward normal. Such observations may be of prognostic value.

Figure 6 shows the patterns obtained from the serum of a 34-year-old male with known disease of 2 years' duration and with several earlier remissions from combined x-ray therapy and nitrogen mustard. At the time this pattern was obtained he was critically ill with pulmonary involvement. There was no change in the EPG following therapy and death occurred one month later. As evidenced in the EPG, both the albumin and gamma globulin are diminished while the alpha globulins are abnormally increased and associated with an increased content of carbohydrate.

DISCUSSION

This small number of examples of protein-lipid-carbohydrate complexes and their resultant electrophoretograms show the changes which can be detected in the serum in different conditions. Most diseases show variations from the normal in one or more of the patterns. The diagnostic value of the method is just beginning to be appreciated and it seems reasonable to expect that its wider use will result in important information of help to both the patient and physician¹⁰.

The adaptability of this technic to the study of any protein-containing body fluid has already given information disclosing underlying mechanisms in some di-

seases. For example, its use in the study of urine proteins in recent years has established the fact that the term "albuminuria" is a misnomer and that whenever proteinuria occurs it is usually a composite reflection of the serum proteins with all fractions of the latter being present in the urine and not albumin alone. Examination of cerebrospinal, ascitic and pleural fluids, as well as of urine, in this laboratory during the past two years show that the same protein components appear in these body fluids as are present in the serum, with varying changes in different diseases.

Paper electrophoresis, as a laboratory method, is now being used in general hospitals. The apparatus required is relatively simple and inexpensive; only small amounts of serum samples are necessary; and multiple analyses can be accomplished simultaneously. With its use, information can be obtained about the various serum protein fractions and their associated lipid and carbohydrate moieties which is not readily obtainable otherwise.

SUMMARY

1. The method of filter paper electrophoresis of serum and the technic for demonstration and measurement of protein, lipid and carbohydrate fractions is described.

2. Several examples demonstrating the diagnostic value of the method are presented.

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Methyl Salicylate Poisoning

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Numerous articles have appeared in the medical literature in recent years stressing the danger of poisoning by salicylates. This danger is more real because of the widely expanded use of aspirin and related analgesics especially in the treatment of infants and children. Methyl salicylate, although it is not an analgesic, is a hazard to children because of its pleasant odor and its relatively greater toxicity in comparison with other members of this group of drugs. (Average toxic dose of methyl salicylate is 2/3 that of salicylic acid and 1/2 that of sodium salicylate.)

The purpose of this paper is to report a case of poisoning by methyl salicylate in a two-year-old child. And, to stress again the dangers implicit in this drug which finds wide use as a rubbing agent and is inadequately labeled to protect the public.

B. M., age 32 months, weight 25 lbs. (11.3 kgm) was admitted to the Central Maine General Hospital, May 4, 1953, in critical condition. The history ob-

tained from the parent was as follows: fourteen hours prior to entry, this child found a bottle of oil of winter-green, which had been left on the mother's bureau, and swallowed an undetermined amount. He vomited three times during the evening. The vomitus consisted of food recently eaten and contained no blood. He appeared to have sustained no other ill effects from drinking the medication and wanted to go out and play. Because the parent thought the medication harmless, no effort was made to secure medical aid. In the morning, however, the child could not be easily aroused, became cyanotic for a few moments on one occasion, and was obviously seriously ill.

At the time of entry, the vital signs were: rectal temperature 101, pulse rate 158, respiratory rate 60. The patient was well developed and nourished, semi-comatose, responding only to painful stimuli, and demonstrated rapid pauseless thoracic and abdominal respirations with some retraction of soft tissue; supra-clavicular and sub-costal. The pulse was regular and of good volume. The skin over the extremities was moist and cold to palpation and scattered purpuric

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areas were demonstrable. There was no marked loss of elasticity suggesting prolonged dehydration. The eyes wandered but no nystagmus was seen and the pupils were equal, contracted but reacted to light. The examination was otherwise not remarkable except for generalized hypo-reflexia.

Laboratory data was as follows: red blood count — 4,090,000, hemoglobin — 13.5 milligrams (87%), white blood count — 40,554, Schilling differential — 54 mature neutrophils, 8 stab forms and 38 lymphocytes. The carbon dioxide combining power of blood plasma was 0 (Rochester Bedside Laboratory Method) oratory. pH — 7.6, chloride 128 mEq/liter, NPN — 51 milligram %. Urinalysis: the specific gravity ranged between 1009-1015, albumin none to 25 milligram %. Sugar — yellow (Benedict's test) and yellow green acetone 2-4 plus.

Course: The patient ran a febrile course during the first week in the hospital. He was comatose or semi-comatose for the first 24 hours and again following convulsive episodes which occurred during the second 24 hours following admission. Intravenous fluid consisting of 1/6 molar lactate was given on entry, the patient receiving 530 cc in three hours. A repeat CO₂ was again reported zero. A clysis of 1 part distilled water and 5% glucose and one part 0.85% saline was then given, the patient receiving 1320 cc of fluid in the first 24 hours by vein and/or subcutaneous route. Ascorbic acid and vitamin K were given and the patient placed in an oxygen tent. On the morning of the second day, he appeared improved, responded to questioning and began to take fluids by mouth. The pH of the serum was reported as 7.6 on the first occasion and because of the evident alkalosis, no further sodium lactate was given. The repeat CO₂ at this time 4 mEq/liter, chlorides 143 mEq/liter. NPN 92 milligram %.

On the evening of the second day, he looked poorly. A venous section with introduction of a catheter was carried out and the patient given intravenous fluids for the ensuing 36 hours. Generalized seizures were noted involving both arms and legs. Calcium gluconate was given intravenously 3 cc at four to six hour intervals and rectal pentothal to control the convulsions. A lumbar puncture was carried out (the dynamics could not be done because of poor cooperation), no cells were seen, the qualitative sugar was normal, the total protein 10 milligram % and the chlorides 125 mEq/liter.

On the morning of the third hospital day, the child appeared improved clinically and the respiratory and pulse rate had decreased. The CO₂ was 20 mEq/liter, NPN — 43 milligram %, chloride 150 mEq/liter, and potassium 3.2 mEq/liter. He improved consistently from this time and was discharged in good condition on May 12, 1953, the ninth hospital day.

In 1954, Stevenson reviewed the literature and reported on three cases of methyl salicylate poisoning treated at the Harriet Lane Home⁽²⁾. He found a mortality rate of 59%. Prominent symptoms were

vomiting (87%), hyperpnoea and tachycardia (59%), stupor and coma (49%) and convulsions (40%). In almost one fourth of the cases, cyanosis occurred, and he noted that the appearance of convulsions altered the prognosis unfavorably.

A study of the precise pathogenesis of the acid base disturbance occurring in salicylate poisoning was done by Singer⁽³⁾ in 1954. He found it associated with a decrease in plasma CO₂ concentration, usually with a decrease in CO₂ combining power, and with alteration of the plasma pH. Salicylates stimulate the respiratory center increasing the respiratory rate and depth. There ensues initially a lowering of the CO₂ pressure and elevation of plasma pH (respiratory alkalosis). Persistence of hyperventilation lead to a slight secondary decrease in buffer base with excretion of bicarbonate in the urine and resulting diminution of plasma sodium and elevation of chloride. The pathogenesis of this is not entirely clear, but is certainly aggravated by dehydration and ketosis which, according to this author, may be due to the action of salicylates at the cellular level with changes characterized by the accumulation of organic metabolites.

In managing these children the laboratory studies should include (1) plasma CO₂ content or combining power, (2) plasma PH, (3) plasma chlorides, (4) BUN or NPN, (5) urinalysis with detection of the presence of salicylates by the furic chloride test, (6) prothrombin time. Treatment of salicylate intoxication includes: (a) gastric lavage, (b) relief of initial alkalemia or ensuing acidosis, dehydration, and ketosis, (c) prevention of hemorrhage and (d) general supportive measures, oxygen, etc.

The type of electrolyte solution to be used will depend on the laboratory findings. Sodium lactate initially followed by the administration of glucose in water have been the usual fluids of choice.

SUMMARY

This is a report of a case of methyl salicylate poisoning in a two-year-old child with a selective review of the literature. The cardinal points in diagnosis and treatment of this condition are summarized and the serious nature of poisoning with this substance stressed.

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Preanesthetic Hypnosis with Rectal Pentothal

A Report of 1052 Cases

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Rectal pentothal was first used in this hospital as a preanesthetic hypnotic agent in July, 1952, in an attempt to provide a safe and pleasant anesthesia induction for children. Venipuncture for sodium pentothal induction is often difficult and undesirable in the young age group.

In 1939 Weinstein¹ reported 164 cases of basal rectal anesthesia using sodium pentothal. In 1940² he cited an additional 274 cases. In 1943 Weinstein³ mentioned the value of mental relaxation and minimal reflex irritability. No sterile precautions are necessary.

The safety of this method is attested by several series without fatality when used intravenously^{4,5,6,7}.

This paper is a report of its use in 1052 cases over a three and a half year period as a preanesthetic hypnotic and occasionally as a basal agent.

METHOD

Preparation of patient. Initially we attempted to provide a fecal-free rectum by the use of a saline enema, administered the night prior to operation. Drug absorption was thought to be more reliable under this condition. However, because many of our patients were admitted on the morning of operation, this was not feasible. Also it was noted that many children who had had an enema the evening before did not have a fecal free rectum. Rectal pentothal has been used in both groups with, as far as may be judged clinically, equally satisfactory results.

For a short time we attempted to give the solution on the ward. Because of the tieup of personnel and the possibility of erroneous dosage or a mixup of syringes if solutions were measured and labeled in the anesthesia department, this was discontinued. The solution is now given by a nurse in our "recovery room." There, friendly conversation, picture books, music boxes and toys do much to allay their fears. A lollipop (to be eaten post-operatively) is given to each child. At one time the nurse read to them until they fell asleep. By this method the children never see the operating room.

If the patient is told we want to take his temperature, an innocuous procedure he has already experienced, no difficulty is met in inserting a small, lubricated catheter to administer the solution. Air, equal to the volume of the catheter, is injected after the solution, to make certain the entire measured dose is given.

Many of the children have a desire to defecate short-

ly after the fluid is instilled. They are urged to retain it as long as possible. We have found an adequate effect even in those who do have a bowel movement.

Other premedication is limited to atropine given one hour before the time scheduled for the operation. Burnap⁸ and associates believed that withholding morphine reduces the incidence of post anesthetic vomiting as may the anti-emetic action of pentothal. In the few early cases where morphine was used with atropine it was obvious that there was more depression post-operatively.

Onset and duration of action. The children usually become very drowsy within fifteen minutes and are generally sleeping within twenty minutes. This time is usually allowed for when calling the patient from the ward. In those cases where the patient has been given the solution and then there is a delay in starting the induction, a second dose is given consisting of half the difference between the hypnotic and the basal dose. This is usually one to three cc.'s.

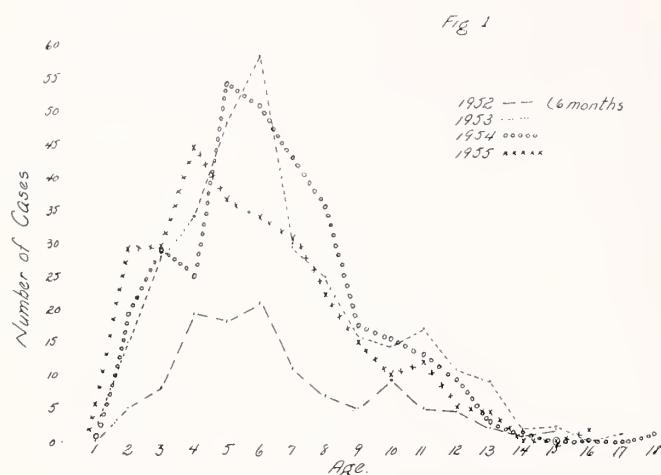
There is frequently such relaxation of tongue and jaw muscles that the airway may become obstructed. Consequently a nurse remains with each patient to watch for this occurrence and correct it, and also to see that any restless turning prior to sleep does not cause injury.

Usually the patient may be transferred from the stretcher to the operating table without awakening. If we believe the effect of the pentothal is wearing off, induction is begun on the stretcher, frequently with the patient curled up on his side. With the hypnotic dose (13.3 mgm./lb. of body weight) we have seen no respiratory depression. If it does occur it may be readily treated with the provision of a clear airway, oxygen and manual respiration when required.

There has been only one child in this group of cases who has been rendered more excited by the solution. One became nauseated and vomited ten minutes after instillation.

Accentuation of the "atropine flush" has been seen frequently, shortly after the solution has been given. It has not persisted after induction.

Inductions have been smooth and little, if any, prolongation of the usual time has been noted. When compared with struggling with an excited, fearful, crying, coughing, vomiting child, the extra time is well spent. There has been no noticeable decrease in tidal exchange or respiratory rate clinically, nor has there been any increase in spasm during induction or maintenance.



Notable is the absence of "lightening," once the operation is underway and ether insufflation begun in a tonsillectomy. Thus a smoother maintenance is obtained.

Following operation the children have regained their reflexes as rapidly as those not having rectal pentothal. They are more quiet but may be easily aroused. Sedation is not required as soon, and a better respiratory exchange is obtained during the initial post-operative phase. We have noticed no alteration in post-operative vomiting.

Children requiring multiple operations involve no problem under this regime. They have no fear of the operating room, and do not become behavior problems on the ward. Artusio and Trousdell⁹ reported that all but four in a series of fifty children receiving rectal pentothal had no memory of the operation.

The basal dosage (20 mgm./lb.) has been infrequently used. In one child requiring multiple burn dressing changes, we found it inadequate. It has been satisfactory for ocular pressure readings, lumbar punctures, and cystoscopy.

Supplemental agents used with rectal pentothal have been vinethene-ether, ethyl chloride-ether, nitrous oxide-oxygen, and cyclopropane-oxygen.

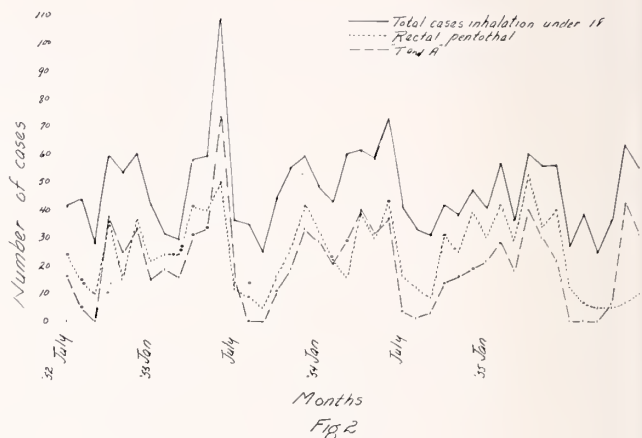
Preparation of solution. Pentothal is supplied in vials, for rectal instillations, as a green nonsterile powder. The intravenous preparation may be used for making solutions for rectal instillations. Originally we used distilled water to dissolve the powder but now use warm tap water.

A 10% solution is advocated but many use a more dilute one. We believe the smaller volume required by the former may be helpful in preventing rectal stimulation. Excess solution may be refrigerated and kept for several days.

A dosage table, calculated in grams per pound or kilograms, is provided by the Abbott Company.

We have rarely used this method on children over one hundred pounds or over the age of fifteen.

Contraindications. It is not recommended that rectal pentothal be given to patients with embarrassed respiration from any cause; obstruction of nasopharynx,



trachea, glottis or mediastinum, decompensated cardiac disease, or severe anemia. Inflammatory rectal conditions also rule out this technique. Moderate renal or liver disease does not contraindicate pentothal. For emergency surgery we have not elected this procedure in children who are known or suspected to have full stomachs.

RESULTS

Our experience has been with 1052 cases. Of these, 599 were males and 453 were females. The age distribution (Fig. 1) reveals the largest numbers of children to be in the 3-7 age group. There also appears to be a gradual shifting of the peak age toward the younger children.

360 cases were classified as emergency good, 12 as emergency fair, and 4 as emergency poor.

864 cases were tonsillectomies and adenoidectomies. Their influence is reflected in the seasonal rise and fall seen in the monthly analysis. They also follow closely the rectal pentothal monthly totals, except for the last two months of 1955. (Fig. 2).

Nearly all types of procedures except neurosurgical are represented by the remaining cases, with a fair percentage of eye recession procedures. The induction when rectal pentothal was not used was ethyl chloride or vinethene followed by ether.

Multiple procedures were done on 35 children. Removal of sutures, control of bleeding, or second operation for the same disease occurred in the majority. Two children had three procedures. One two-year-old boy with severe extensive burns has had 18 procedures, rectal pentothal being given 15 times and endotracheal intubation performed 8 times.

CONCLUSION

When used in hypnotic doses, rectal pentothal has been found to be safe and satisfactory. It is acclaimed by parents, operating room and ward personnel.

Atropine has been the only premedication.

Dosages have not exceeded 1.5 grams (15 cc. of a 10% solution) and it has not been used in children suspected of having full stomachs.

Continued on page 95

Maine Medical Association

1956 ANNUAL SESSION NOTES *

Specialty Groups planning to meet during the Annual Session include the following:

Maine Chapter, American College of Surgeons
Maine Cancer Society
Maine Eye Group
Maine Heart Association
Maine Pediatric Society
Maine Radiological Society
Maine Society of Anesthesiologists
Maine Trauma Committee
Maine Trudeau Society

Details regarding the program for these various groups will be included in the Official Program.

*Each issue of the Journal between now and June (the convention issue) will feature a page concerning the annual session program—DON'T MISS IT.

The Samoset — June 24, 25, 26

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Maine Hospital Association

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Across The Desk

One Hundred and Fifty Years of Medicine

From the days of Pasteur, Koch and Lister, to the era of Fleming, Kendall and Salk, the Medical Society of the County of New York has been the strong right hand of all good medicine.

New York County Medical Society, Island of Manhattan, has written many chapters in the history of medicine since that day in April 1806, when 102 Doctors of Medicine assembled on the steps of City Hall and announced the formation of their society.

The sesquicentennial celebration during the first week of April includes historical exhibits, programs in the scores of hospitals of the city on the newest clinical

applications of medicine, open house and special exhibits in the five medical schools of New York, television and radio programs for the public on "New Horizons In Medicine" and special cancellation postmarks for all letters mailed in Manhattan during the event. A special anniversary seal has been created for use on all letters mailed by physicians.

The Maine Medical Association joins with the Doctors of America to extend best wishes for continued success and progress to our good friends, the New York County Medical Society, on the anniversary of its founding.

Replies to Social Security Questionnaire at Press Time Complete Breakdown in Later Issue

(A) Do you favor compulsory inclusion for Doctors of Medicine under Social Security if voluntary inclusion is not available under the law?
Yes 181 No 262

(B) Do you favor AMA's stand against the Disability Benefits Amendments provided in H.R. 7225?
Yes 330 No 77

Pentagon, Services Clash Head-on over Osteopathy

Differences between Defense Department and armed forces' medical departments over utilization of osteopaths erupted fiercely at a recent hearing before a subcommittee of Senate Armed Services Committee. Most of the heat was supplied by subcommittee members, who distributed their fire evenly — against Pentagon, which

they accused of covering up opposition by Surgeons General, and against the three SG's for resisting a source of medical officer material on grounds which two of the three subcommitteemen considered insufficient and tenuous.

Approval of Bill Likely

Senators Stuart Symington (D., Mo.) and Henry M. Jackson (D., Wash.) probably will vote for House-passed bill (HR 483), which permits commissioning of DO's in the Army, Navy and Air Force Medical Corps. Senator Margaret Chase Smith (R., Me.) appears to be opposed. Approval by full committee is likely. Note: There may be repercussions at Pentagon

in wake of equivocal testimony presented at hearing by Assistant SecDefense Frank B. Berry (Health & Medical) and his deputy, Dr. Edward Cushing.

Write to Senators Symington, Smith, Jackson and any others on the Armed Services Committee you may wish, and tell them your views on this measure.

Doctor Groups Affected by Adverse Tax Ruling

Internal Revenue Service has announced a ruling of importance to medical practice groups, dealing with tax implications of voluntary pension plans. Its substance: Doctors who form an association to obtain benefits of corporate status constitute a partnership in the eyes of Internal Revenue. All members are employers, not employees, therefore they cannot satisfy IRS requirements for establishment of a pension plan under Section 401(a) of Internal Revenue Code of 1954. This ruling has been published as result of inquiries resulting from court decision about a year ago which held differently.

A Federal court decided (U.S. vs. Arthur R. Kintner, M.D.) that Western Montana Clinic had more of the criteria of a corporation than of a partnership, for tax purposes, hence its pension plan was in compliance with law. Doctor-members were credited with prior service as partners in reckoning employment records for pension purposes. This decision, which was sustained on appeal by government, "will not be accepted by the Internal Revenue Service as a precedent in the disposition of other cases involving similar fact situations."

Hershey Warns Hospitals on Residencies and Draft

Selective Service Director Lewis B. Hershey has issued a warning to nation's hospitals against appointment of draft-vulnerable physicians to residency posts. Here is the situation: Some 4,500 young doctors subject to military call are due to complete internships in July. Estimating that 500 will be physically unqualified and 500 will receive Defense Department deferment for residency training, that leaves 3,500 potentially available for draft callup. But armed forces will need 4,600 replacements in fiscal year beginning July 1 (exclusive of USPHS needs). That leaves a deficit of 1,100 to be plucked from remnants of Priorities I and II and the large pool of Priority III's (non-veterans).

General Hershey is, in effect, putting teaching hospitals on notice that they run risk of losing first, second or third year residents up to age 46 if these men are subject to induction. "Neither the hospitals nor the individual physicians involved would be justified in protesting a call to military service," he declared.

As of December 31, 1955, there were only 176 doctors in Priorities I and II combined who were classified in 1-A and physically fit for military service. Note: Defense Department soon may send a requisition to Selective Service for its first physician inductees of 1956, for activation in second half of this year.

PHS Cites '55 Decline in Infectious Diseases

Most major communicable diseases showed drops in incidence last year, according to a preliminary report by Public Health Service. Poliomyelitis was about 25 per cent below 1954. Infectious hepatitis, which had been rising steadily since 1949, declined nearly 38 per cent. Typhoid incidence was down 25 per cent, malaria 33 per cent. Not a solitary case of smallpox was con-

firmed during the year. Fewer cases of brucellosis, rabies in man, botulism, endemic typhus and meningococcal infections were reported. Year for year, diphtheria cases declined but incidence in second half of 1955 was so much higher than in corresponding period of 1954 as to cause concern.

Sore Throat Treatment Changes over Years

CHICAGO — A man with a sore throat today is better off than George Washington was when he had one in 1799.

During his fatal illness, which began with a sore throat, in December of that year, Washington was treated with "the best" eighteenth century methods . .

"bleeding," the application of "blisters" to the neck, gargles, inhalations, cathartics, and immersion of his feet in hot water, Dr. Noah D. Fabricant, Chicago otolaryngologist, said today.

Continued on page 86

ACHROM

PHOTO DATA, CAMERA: 4X5 VIEW CAMERA; EXPOSURE: 1/25 SEC. AT F.11 EXISTING LIGHTING.

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widely prescribed because of these important advantages:

- 1) rapid diffusion and penetration
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- 3) true broad-spectrum activity (proved effective against a wide variety of infections caused by Gram-positive Gram-negative bacteria, rickettsiae, certain viruses and protozoa)
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- 6) a *complete* line of dosage forms



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Also available: ACHROMYCIN SF ORAL SUSPENSION (Cherry Flavor), 125 mg. per 5 cc. plus vitamins.



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(a Lederle exclusive!) for more rapid and complete absorption. No oils, no paste, tamperproof!

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*REG. U. S. PAT. OFF.

Across The Desk

Continued from page 83

Now treatment for sore throats includes antibiotics and sulfonamides for severe cases and the "time-tried" methods of complete bed rest, adequate amounts of fluids, salicylates for the control of fever, and irrigation of the throat with warm salt water for mild cases.

In Washington's day, the diagnostic method of chest thumping and listening was unknown and no one thought to examine his throat. His illness was diagnosed as "quinsy" (an abscess near the tonsils) and

later as "cyanche trachealis," an indefinite medical term then in vogue for a severe sore throat that involved the vocal chords.

Although the exact diagnosis of his illness is a matter of dispute, it seems likely that a strain of streptococci organisms was responsible, Dr. Fabricant said in the February issue of *Today's Health*, published by the American Medical Association.

Nylons Not Electrostatic

The gentler sex of surgical teams can feel less mid-victorian in operating rooms from now on because nylon stockings can be worn without violating safety rules, provided the girls wear electrically conductive shoes.

At a meeting of the committee on hospital operating rooms of the National Fire Protection Association, New York, January 23-24, Howard A. Carter, director of biophysical investigation of the A.M.A. Council on Medical Physics, said that, based on new evidence and experience, nylon stockings are not electrostatically dangerous when touching the skin.

A study of operating room explosions by the com-

mittee has shown that high electric charges will generate on nylon, wool, and silk garments which do not touch the skin and therefore are a hazard. The static sparks can ignite the anesthetic gas. Mr. Carter said that the committee declared that nylon stockings which touch the skin do not retain a charge.

The committee did not change the rules for nylon undergarments and the uniforms of the nurse anesthetists or nurse attendants. These swishing garments must be made of cotton or of some textile that will not generate static electricity.

Dentist Describes Ear Protector

CHICAGO — A dentist has suggested a way of keeping water out of the ears while swimming.

Jacob Schaffer, D.D.S., Newark, N. J., outlined the method in the January issue of *Archives of Otolaryngology*, published by the American Medical Association.

A cast of the inside of the outer ear is made of a plastic material (acrylic) used in making dentures. An impression of the entire ear is taken with an elastic

material. A model is then poured and a semisoft acrylic cast is formed. When finished the cast will lock into the ear and be a self-retentive complete seal, he said.

The seal is especially useful for persons with perforated ear drums or with healed postoperative cavities, Dr. Schaffer said.

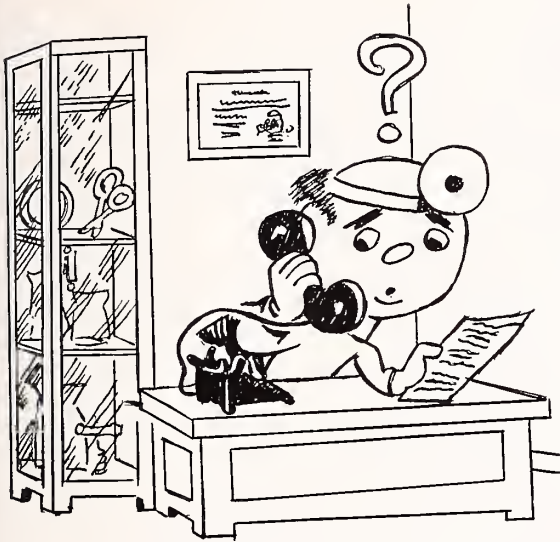
The Public Speaks

A survey was conducted by a professional organization and based on interviews with 360 adults in the Los Angeles area. Fifty-one persons were chosen from professional or "influence" groups and 309 persons were picked at random from the "general public." Here are some of the results:

- 75% had a regular or family doctor.
- 91% said they received satisfactory explanations about their illnesses from doctors.
- 95% felt that the doctor had given them adequate time.
- 85% called the doctor's attitude kindly or sympathetic, not impersonal.
- 54% had changed physicians because of dissatisfaction. Principal reasons: "not thorough,"

"didn't like his medication," "not a specialist," "charged too much."

- 76% believed that all doctors would make night or Sunday calls if possible.
- 64% rely on a friend's recommendation in selecting a physician.
- 88% were satisfied with physicians' fees, but 30% were of the opinion that medical fees generally were "unreasonable."
- 50% feel that doctors send patients to "particular" pharmacies.
- 82% wanted no part of compulsory health insurance.
- 70% want itemized bills.



ANSWERING QUESTIONS



Surgical Services

(Dental Surgery Excepted)

POINTS TO BE STRESSED: Definition and conditions under which benefits are allowed.

(I) DEFINITION

"Surgical Services" means:

- A) Any cutting procedure for the treatment of disease or injury that requires penetration of the dermis (middle layer of skin), and such other cutting procedures as are specifically provided for in the Schedule of Fees; provided however, the term "Surgical Services" shall not include the piercing of the dermis by any instrument for the purpose of either the introduction into or extraction from the body of any substance unless specifically provided for in the Schedule of Fees.
- B) Treatment of fractures and dislocations.
- C) Other procedures pertaining to the treatment of disease or injury by manipulation or the use of instruments only if specifically provided for in the Schedule of Fees.

(II) LOCATION OF SERVICE TO QUALIFY AS A BENEFIT

Surgical services as defined above are a benefit under the terms of the Maine Blue Shield Contract when rendered at the:

- (a) Home
- (b) Office
- (c) Hospital
- (d) Scene of an accident

(III) PRE- AND POST-OPERATIVE CARE

Benefits for pre- and post-operative care are included in the surgical fee to the following extent:

- A) Major Surgical Procedure (one for which Blue Shield allows a fee of \$50.00 or more)
 - 1. Not more than 21 days of pre- and post-operative care.
- B) Minor Surgical Procedure (one for which Blue Shield allows a fee of less than \$50.00)

- 1. Not more than 4 days of pre- and post-operative care.

C) Office or Home

- 1. Not more than two (2) post-operative visits.

(IV) BENEFITS PROVIDED

- A) A Single Scheduled Procedure is paid for in accordance with the schedule of fees.

B) Multiple Surgical Procedures

When two or more surgical procedures are performed by the same surgeon during a single hospital admission or during a single period of illness or injury, full payment will be made for the procedure scheduled at the largest fee and partial payment will be made for all other procedures as follows, unless otherwise provided in the Schedule of Fees:

If a major surgical procedure, two-thirds (2/3) payment will be made.

If a minor surgical procedure, one-half (1/2) payment will be made.

(V) LIMITATION OF BENEFITS

A) Independent Procedures

Any procedure or group of procedures in the Schedule of Fees marked "independent procedure" (I.P.) are paid for only when done alone or independently. For example: an appendectomy commands a fee of \$100.00 when performed by itself; however, when it is performed during the course of another abdominal operation and a separate incision is not required, it commands no fee.

- B) Fees for certain procedures customarily rendered in series (Prostatectomy) are provided up to a

Continued on page 95

STATE OF MAINE

Department of Health and Welfare

Dean Fisher, M.D., Commissioner
State House, Augusta, Maine

The Federal Hospital and Medical Facilities
Survey and Construction Act (Hill-Burton)

(Woodrow E. Page, Hospital Construction Engineer)

The Federal Hospital and Medical Facilities Survey and Construction Act, commonly called the Hill-Burton Act, provides for the continuing survey of existing facilities, programming of construction on a priority basis and financial assistance for the construction of facilities in accordance with a comprehensive State plan.

The Hospital section of the Act (Part C) includes general, tuberculosis, mental and chronic disease hospitals and public Health centers. The Medical Facilities section of the Act (Part G) includes diagnostic and treatment centers, chronic disease hospitals, nursing homes and rehabilitation facilities. All construction must be on the basis of non-profit ownership.

The administration of these funds has been a responsibility of the State Department of Health and Welfare on the basis of plans and policies developed by an Advisory Council of seven men, appointed by the Governor for three year terms, who are representative of the interests involved in hospital construction and utilization. Dr. Frederick T. Hill of Waterville has been chairman of the committee since its beginning.

Construction programming has been based on the needs of hospital areas and on the needs for particular services rather than of any intent to make equalized funds available to each hospital. Furthermore, there has been a continuous intent to stimulate thinking in terms of regionalization and coordination of facilities rather than competition between them. These concepts have been kept before many people and the program may have prevented some unwise expenditures that might otherwise have been made in the cause of community pride.

The requirements for sound financing and design may also have helped to prevent the building of "white elephants." It has been reassuring to receive reports of high occupancy rates and satisfaction with equipment and design shortly after new construction has been occupied. It has been interesting to see many of these standards carried over into new projects in which there was no Federal financial participation.

Under the Hospital section of the Act, the total Federal allotment to the State during the period 1948 to 1956 inclusive has been \$5,419,948.00, which has enabled the construction of 17 hospital projects having a total cost of \$11,128,000.00. The types of projects

are 14 general hospitals, two mental hospitals and one chronic disease hospital.

Seven of the general hospital projects are completely new facilities, namely, Thayer Hospital, Waterville (63 beds); Peoples Benevolent Hospital, Fort Kent (60 beds); Community General Hospital, Fort Fairfield (36 beds); Millinocket Community Hospital, Millinocket (32 beds); Calais Regional Hospital, Calais (44 beds); Eastern Memorial Hospital, Ellsworth (43 beds) and Waldo County General Hospital, Belfast (44 beds). The latter project is in the planning stage.

Major reconstruction and enlargements have been completed at: Central Maine General Hospital, Lewiston; Bangor City Hospital; Augusta General Hospital; Mercy Hospital, Portland; Portland City Hospital; Augusta State Hospital; Webber Hospital, Biddeford and Cary Memorial Hospital, Caribou.

The briefest possible summary of the number and condition of existing general hospital beds and the present plans for construction is presented in the following table:

Region	EXISTING		PROPOSED
	Ratio Beds/1000 Acceptable and Non-acceptable	Acceptable only	Ratio Beds/1000 Acceptable and Proposed
Bangor	3.9	1.8	4.1
Lewiston	3.4	2.0	3.9
Portland	4.1	2.8	4.2
State	3.8	2.2	4.0

Remembering that planning is on the basis of areas rather than individual communities or hospitals and considering only beds that are acceptable by established definitions, the relative needs of specific areas for general construction are indicated by the next table:

Range of Need Met	Principal Area Center
0-25%	Machias - Bridgton - Old Town Belfast - Houlton - Dover-Foxcroft
25-50%	Bath - Presque Isle - Waterville - Biddeford
50-75%	Lewiston - Augusta - Bangor - Rumford - Ellsworth - Calais
75-100%	Caribou - Rockland - Farmington - Portland - Sanford - Millinocket

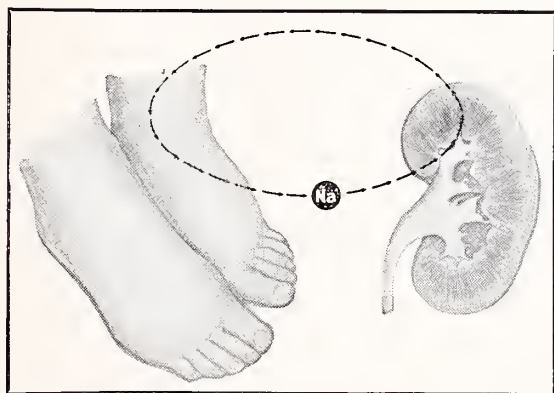
(This table does not reflect the effect of construction now planned but not yet underway.)

Continued on page 93

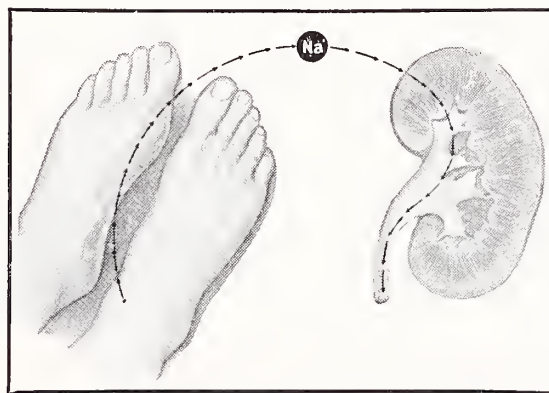
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diarrhea or headache) are minimal or absent.

Clinically, Mictine is useful in the maintenance of an edema-free state in all patients and for initial and continuing diuresis in mild or moderate congestive failure. It is not intended for initial diuresis in severe congestive failure unless either sensitivity or tolerance to other diuretics has developed in the patient.

The maintenance dosage of Mictine, as well as for initial diuresis in mild or moderate congestive heart failure, is one to four 200-mg. tablets daily in divided doses; the dosage for initial diuresis in severe congestive failure, under the conditions already described, is four to six tablets daily. For either use, it is recommended that Mictine be prescribed with meals on interrupted dosage schedules; that is, prescribing Mictine on alternate days or for three consecutive days and omitting it the next four days.

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County Society Notes

HANCOCK

February 8, 1956

A regular meeting of the Hancock County Medical Society was held on February 8, 1956 at the Hancock House, Ellsworth, Maine. There were seventeen members present. The meeting was opened by the vice-president, John T. Connell, M.D. The minutes of the December meeting were read and approved.

The society was notified that C. F. Larrabee, M.D., who was elected president at the December meeting, was unable to accept office. John T. Connell, M.D., of Blue Hill, was elected president, and Robert F. Russell, M.D., of Penobscot, was elected vice-president.

A motion was passed that this society recommend to the House of Delegates of the Maine Medical Association that George Parcher, M.D., of Ellsworth, be elected a senior member of the State Association.

Resolutions on the death of Hiram A. Holt, M.D. were approved.

Theodore S. Hsu, M.D., of Ellsworth was elected a member of the society.

The speaker of the evening was Mr. Graham F. T. W. Henson, F.R.C.S., of St. Mary's Hospital, London, at present an exchange research fellow at Peter Bent Brigham Hospital in Boston. Mr. Henson gave a very enlightening and entertaining talk entitled Surgery — Here and There, in which he compared the practice of surgery in England and in this country.

ARTHUR M. JOOST, JR., M.D.,
Secretary

KENNEBEC

December 8, 1955

The annual meeting of the Kennebec County Medical Society was held at the Augusta State Hospital, Augusta, Maine on December 8, 1955. The following officers were elected for the coming year:

President, M. Tieche Shelton, M.D., Augusta
Vice-President, Arthur H. McQuillan, M.D., Waterville
Secretary-Treasurer, Arch H. Morrell, M.D., Augusta
Counselors: Howard H. Milliken, M.D., Hallowell (1 year);
Anthony E. Lepore, M.D., Gardiner, (2 years); John F. Reynolds, M.D., Waterville, (3 years).

Delegates to the Maine Medical Association: Charles E. Towne, M.D., Waterville; Wilson H. McWethy, M.D., Augusta; Loring W. Pratt, M.D., Waterville; Frank B. Bull, M.D., Gardiner; Allan J. Stinchfield, M.D., Hallowell. Alternates, George J. Robertson, M.D., Waterville; Ivan E. McLaughlin, M.D., Gardiner; Arnold W. Moore, M.D., Augusta; Leon D. Herring, M.D., Winthrop; Richard H. Dennis, M.D., Waterville.

LINCOLN-SAGADAHOC

February 21, 1956

A regular monthly meeting of the Lincoln-Sagadahoc County Medical Society was held February 21, 1956 at the Ledges Inn, Wiscasset, Maine. There were fourteen members and guests present.

In the absence of the president, Joseph Smith, M.D., of Bath, the meeting was called to order by the vice-president, Stanley R. Lenfest, M.D. of Waldoboro. The minutes of the last meeting were read and accepted.

The secretary read the notice of the Interim Meeting of

the House of Delegates of the Maine Medical Association to be held in Bangor, April 8.

It was moved and passed that Harris C. Barrows, M.D., of Boothbay Harbor, who has been in practice for fifty years, be recommended by the Lincoln-Sagadahoc County Medical Society for Honorary Membership in the Maine Medical Association.

The business meeting was followed by a very informative discussion of Abnormalities of the Menses, by D. Ward Slingerland, M.D., of the Boston Veteran's Hospital.

EVERETT D. SCHUBERT, M.D.,
Secretary

WALDO

February 2, 1956

The annual meeting of the Waldo County Medical Society was held in Belfast, Maine on February 2, 1956. The following officers were elected for the coming year:

President, Ernest W. Stein, M.D., Pittsfield

Vice-President, Norman E. Cobb, M.D., Belfast

Secretary-Treasurer, Raymond L. Torrey, M.D., Searsport

Censors: Foster C. Small, M.D., John A. Caswell, M.D.,

George L. Temple, M.D., all of Belfast.

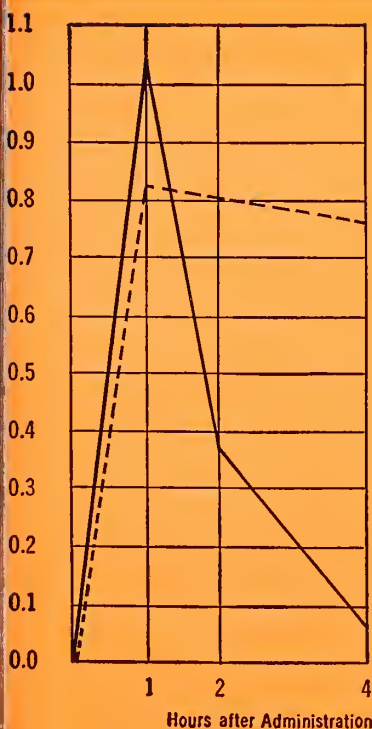
Delegate to the Maine Medical Association, Seth H. Read, M.D., Belfast. Alternate, John A. Caswell, M.D., Belfast.

NEW MEMBERS

HANCOCK

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Higher, Faster Blood Levels than Twice
the Dose of Injected Procaine Penicillin*



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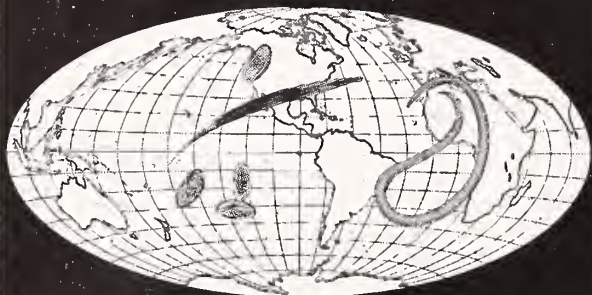
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Letters to the Editor

Dear Editor,

This is a frank invitation to the medical profession of the State of Maine to become acquainted with the Maine National Guard in the hope that some doctors will become interested in becoming medical officers in this fine unit.

Historically the Maine National Guard has a great heritage extending over many years. The medical units have shared this heritage and many doctors have worn the uniform with pride and distinction. At the present time there is a great need of professional medical officers in three of the units. Opportunities for commission exist in the Portland area where three M.D.'s and four dentists are needed to serve with the medical company of the 103rd. Regimental Combat Team and one M.D. in South Portland to serve with the 703rd. AAA Gun Bn. In the Bangor area one M.D. is needed to serve with the medical detachment of the 314th. AAA AW Bn.

Many advantages to the medical officer accrue from accepting a commission in this modern National Guard. To point out a few:

1. Continuance of service from previous military service, be it active in time of war, R.O.T.C., O.R.C., or National Guard.
2. An existing pension plan which commences at age 60, crediting all previous military service in addition to current National Guard service.

3. Existing financial remuneration is attractive and consistent with our present economy.

4. Opportunity for attainment of higher rank because of a more liberal promotion plan.

5. Other advantages exist but I think the most important is the natural desire of every American to fulfill his patriotic duty. In the history of the Maine National Guard the medical profession has attained a tradition of pre-eminence. Today the medical profession in the State of Maine cannot let that tradition down.

For further information, interested doctors can get in touch with the several commanding officers of the above mentioned units or the Adjutant General George M. Carter, Augusta, Maine, or myself.

CHARLES E. TOWNE, M.D., Waterville
State Surgeon, Maine National Guard

Dear Dr. Hanley:

We would like to call to the attention of members of the Maine Medical Association, the wonderful opportunities presented by the major hospitals in the state in discovering latent chest diseases by the simple procedure of a routine survey chest x-ray on admission.

There are still too many physicians who do not take advantage of this inexpensive diagnostic procedure and that is the reason for these comments. These photofluoroscopic units have been added to the hospitals' armamentarium at great expense and should be taken advantage of. The small fee should be no deterrent for the survey will be taken free for those unable to pay.

We feel that several cases of tuberculosis and other pulmonary diseases have been missed because of the failure of the attending physician of not doing a routine chest survey on his patient.

Sincerely yours,

LANGDON T. THAXTER, M.D., Portland
President of Cumberland County Health
and Tuberculosis Association
EDWARD A. GRECO, M.D., Portland
Chairman of the Tuberculosis Committee,
Maine Medical Association

Department of Health & Welfare

Continued from page 88

Under the Medical Facilities section (Part G) of the Act (1954) the total Federal allotment to the State during the period 1955 to 1956, inclusive, has been \$600,000. As yet only two projects have been approved under this section, one for a diagnostic and treatment center and the other for chronic disease facilities.

One unusual aspect of this portion of the program has been the assignment of \$50,000 of Maine's allotment to Massachusetts for use in the construction of a rehabilitation facility at the New England Medical Center.

The inclusion of nursing homes in Part G meant that survey activity had to be extended to cover existing beds in this category and this survey resulted in startling figures. At present, there are 209 licensed nursing, convalescent and rest homes in Maine. Only 74 of these have registered nurses, or registered practical nurses, in regular staff positions. Seventy-three of these homes are proprietary in ownership and are converted dwellings; that is 208 of the total number are converted dwellings. Therefore, despite the fact that these institutions offer valuable service and meet licensing requirements, when judged against modern standards of construction or design, none of them can be considered acceptable.

There are approximately 1100 beds in the 74 institutions, but the estimated state-wide need is 2700 beds. Volume of service derived from existing beds is indicated by the fact that nursing homes have approximately 1004 annual admissions and provide approximately 303,652 days care per year.

By areas, the nursing home situation may be summarized as follows:

Region	Estimated beds needed	Per cent of need met by existing beds
Bangor	921	20.3
Lewiston	861	59.4
Portland	966	41.1

In planning construction of nursing homes it seems wisest to consider them as related to general hospitals, and in this way gain the advantages of patient exchange, staff training, criteria of standards of care and the maximum utilization of both facilities with resulting economics and improved patient services. In other words, the program recognizes the essential services of the nursing home, the necessity for un-interrupted medical care as the patient may move from one facility to another, and the importance of thinking of medical care as a regional mosaic of inter-related services with the general hospital as the basic unit. It is obvious that there is much to be done if these objectives are to be met.

The 1956 annual revision of the State Hospital and Medical Facilities Survey and Construction Plan is being distributed to all institutions concerned. A limited number of copies are available for distribution to individuals upon request to the Department of Health and Welfare.

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Bumbalo, T. S., Gustina, F. J., and Oleksiak, R. E.: J. Pediat. 44:386, 1954.

White, R. H. R., and Standen, O. D.: Brit. M. J. 2:755, 1953.

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Brown, H. W.: J. Pediat. 45:419, 1954.

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Notice

DEPARTMENT OF HEALTH AND WELFARE
Division of Maternal and Child Health
(Including Services for Crippled Children)
Clinic Schedule 1956

ORTHOPEDIC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL
9:00 a.m.: Jan. 9, Feb. 13, March 12, April 9, May 14.
LEWISTON — CENTRAL MAINE GENERAL HOSPITAL
9:00 a.m.: Jan. 20, Feb. 17, March 16, April 13, May 18.
RUMFORD — COMMUNITY HOSPITAL
1:30 p.m.: March 21.
WATERTOWN — THAYER HOSPITAL
1:30 p.m.: Feb. 23.
ROCKLAND — KNOX COUNTY HOSPITAL
1:30 p.m.: Feb. 16, May 17.
MACHIAS — NORMAL SCHOOL
1:30 p.m.: Jan. 4, April 4.
PRESQUE ISLE — NORTHERN MAINE SANATORIUM
9:00 a.m. and 12:30 p.m.: Jan. 10, March 14, May 8.
HOULTON — AROOSTOOK GENERAL HOSPITAL
9:00 a.m.: March 13.
FORT KENT — PEOPLES BENEVOLENT HOSPITAL
10:00 a.m.: Jan. 11, May 9.

*BANGOR — EASTERN MAINE GENERAL HOSPITAL
1:00 p.m.: Jan. 26, March 22, May 24.
AUGUSTA — AUGUSTA GENERAL HOSPITAL
1:00 p.m.: April 26.

PEDIATRIC CLINICS

*BANGOR — EASTERN MAINE GENERAL HOSPITAL
1:30 p.m.: Jan. 27, Feb. 24, March 23, April 27, May 25.
*FORT KENT — PEOPLES BENEVOLENT HOSPITAL
10:00 a.m.: March 21.
*PRESQUE ISLE — NORTHERN MAINE SANATORIUM
1:30 p.m.: Jan. 25, May 23.
*WATERTOWN — THAYER HOSPITAL
1:30 p.m.: Jan. 3, Feb. 7, March 6, April 3, May 1.

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*Several of the Pediatric Clinics, and also Bangor CC Clinics, will be two-session clinics.

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*Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, ed. 3, Baltimore, The Williams and Wilkins Company, 1954, p. 998.

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Answering Blue Shield Questions

Continued from page 87

- maximum beyond which they become the personal responsibility of the member.
- C) Fractures and Dislocations
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 2. For reduction of a dislocation not requiring general anesthesia, one-half the scheduled allowance shall be made.
- D) Services covered by law or in Government Institutions
- Benefits are not allowed for services rendered in connection with cases covered by Workman's Compensation Law, or state, municipal, or federal laws or for services obtained in a veterans' or other federal hospital.
- E) Congenital or cosmetic defects which are corrected by surgery are not a benefit if such defects were present prior to the effective date of the contract.
- F) Pre-existing Conditions
- Benefits are not allowed for services rendered during the first twelve (12) months of membership for any condition existing at the date of application or for which surgical treatment or advice has been rendered within one (1) year prior to the date of application.

PREANESTHETIC HYPNOSIS

Continued from page 80

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Tuberculosis Abstracts^{*}

Issued By The National Tuberculosis Association

A Look At Home Town Care

By Julia M. Jones, M.D., Bulletin, National Tuberculosis Association, September, 1955.

The recent increase in home treatment of tuberculosis patients has been much discussed. Some patients have always been treated outside hospitals, either from preference or because of a shortage of beds. Now with more effective treatment methods it is reasonable to broaden home treatment criteria if quality of medical care can be maintained.

Whether or not the idea is good, home care is already widely practiced. What is needed now is a critical evaluation of unhospitalized patients and criteria for the selection of patients and for providing suitable medical care. Experience with chemotherapy is still of short duration and there are many unanswered questions regarding its efficacy. In adapting chemotherapy to home treatment the limitations should be considered.

Streptomycin and isoniazid are highly effective when properly administered. Isoniazid can be given by mouth and parenteral injections of streptomycin can be made by visiting nurses or in clinics. Symptomatic response is prompt, and the volume and infectivity of pulmonary secretions are usually reduced. Present knowledge indicates that, to be effective, treatment must be prolonged for a year or more and must be continuous, that streptomycin and isoniazid are best given in combination or with para-aminosalicylic acid, and that surgical treatment is often necessary.

These drugs are usually not dangerous, but rarely toxic manifestation may require a change in drug regimen. Toxicity usually develops early and complications can be avoided if new cases are hospitalized during the preliminary period. Drug therapy is more often limited by the onset of bacterial resistance to the drugs, which is encouraged when therapy is interrupted or drugs are not given in proper combination. Extra efforts must be made to insure continuance of therapy when patients are treated outside the hospital.

Adequate observation of patients receiving drug therapy requires frequent clinical and roentgenologic observation and detailed laboratory studies. Since drug therapy is usually dramatically effective in relieving symptoms and is apt to encourage false optimism, thorough education of the patient is important at the onset and throughout treatment. It is difficult to achieve the same degree of understanding during brief office and clinic visits that is possible in the hospital.

It must be recognized that there are advanced cases of tuberculosis which cannot be cured and the patient remains a respiratory cripple. Although hospitalization provides only custodial care for these patients, outside the hospital they are potentially dangerous to the community. The patient at home is not necessarily ambulatory, and if needed rest at home is impossible, the patient should remain in the hospital. Additional benefits of rest should not be compromised in order to treat the patient at home.

As treatment methods become simpler and more easily administered, it may be anticipated that the specialist will deal only with the more complicated clinical situations. Unfortunately, the past isolation of tuberculosis patients has also isolated clinical experience and knowledge. Medical students,

residents and practicing physicians need more experience and instruction regarding tuberculosis.

In the past hospitalization has been urged not only for the patient's benefit but also to isolate him during the infectious period. Does drug therapy reduce the danger of contagion sufficiently to ignore this safeguard? Factual data are needed before this question can be answered. It seems wise, however, to combine drug therapy with precautionary measures. The patient at home and his familial contacts should be carefully instructed as to hygienic precautions and kept under close observation.

Some enthusiasm for home care is based on the assumption that it is less expensive. For the self-supporting patient, home care may be less costly than prolonged hospitalization, but when treatment is at community expense this saving is less certain. The patient still requires medical and nursing care, must be housed and fed, and his family must be assisted. This cannot be assumed to be inexpensive until overall costs have been studied.

In the hospital the patient can be provided with medical and other necessary services. When patients are geographically dispersed, services become difficult to provide and the treatment team, including doctors, nurses, social workers, vocational counselors, public health nurses and recreation workers may be too dispersed to be efficient. Provision of such services for unhospitalized patients is a challenging problem. Relapse is now less frequent following effective treatment, but relapse potentialities still exist and may be decreased by careful rehabilitation.

Home treatment offers advantages for selected patients if all clinical and personal needs can be met. Family integrity can be maintained with the patient as a participating member. The successful "home treatment" patient must assume greater responsibility for his conduct and treatment, thus avoiding attitudes of dependency. The home should be physically adequate and family relationships must be sound.

Application of home treatment is limited for the numerous detached, homeless men who attend clinics from unsheltered living situations. Many of these patients adapt poorly to institutional life. In general the poorly adjusted individual is a poor patient inside or outside a hospital.

During the period of preliminary hospitalization for new tuberculosis cases long-range plans can be formulated after doctors, social workers, and vocational advisors have evaluated individual needs. When suitable clinical response has been made, the patient can return to a well-planned home situation. Ideally he will then continue under supervision of the same staff. Later surgical therapy may be necessary and this can be performed as part of a well-integrated, continuous program of treatment. If home treatment cannot be continued under the auspices of the hospital in which treatment began, detailed information and plans should be transferred to the patient's private or clinic physicians and social workers.

Hospital services are needed for new cases, for the clinically ill, and for specialized services such as thoracic surgery. The asymptomatic patient on prolonged drug therapy and the convalescent patient under continuing clinic supervision can be treated at home if suitable arrangements can be made.

Much is to be gained from sharing experience in a period of change. A pooling of information from various parts of the country where home treatment programs are in progress should contribute to our understanding of the questions which have been posed regarding home treatment of tuberculosis.

^{*}Vol. XXIX, March, 1956, No. 3.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)



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Number 4

Management in the Small Bowel Problems^{*}

EUGENE E. O'DONNELL, M.D.**

In 1920, John Chalmers DeCosta wrote on the operation for strangulated hernia:

"If there is stercoraceous vomiting, the stomach must be washed out before giving the anesthetic; and during the administration of the anesthetic, the head should be turned on its side. Always lay out a hernia knife, a director, and Murphy Buttons.

"After operation for strangulated hernia, put the patient to bed, bend the knees over a pillow, give no food by mouth for thirty-six hours, only allowing hot water. Every six hours, give an enema of salt solution containing brandy. Abdominal pain and tenderness call for the administration of saline cathartics and enemata, containing turpentine or Oil of Rue. The enema of Rue is a favorite preparation in St. George Hospital, London. It is made as follows: Take 16 ounces of infusion of calomel, warm it, and pour in three drams of the confection of senna. If there is no abdominal pain or tenderness, the bowels need not be disturbed for a few days, but if at the end of four or five days, they have not acted, give a saline cathartic, and a few hours later, a purgative enema. At the end of about three weeks, get the patient up. If a radical cure has

not been attempted, apply a pad and a spica bandage to the groin, and later a truss. A truss should not be worn if a radical cure has been made."

At that time, the mortality in a series of 1429 strangulated herniae was 20.7%. Deaver and Ross, in a paper published in the *Annals of Surgery* in 1915, had a mortality of 33.5% in 156 cases of strangulated herniae.

Twenty-five years ago, in the vicinity of Portland, Maine, I reviewed the cases of small bowel obstruction; the mortality rate at that time was between 40 and 50%. Based on available reports from the current literature, the mortality rate today is below 10%.

In some respects, the problem is similar to operative obstetrics, in that these disorders frequently arise at a time when we are least suited to cope with them. They may manifest themselves on late afternoon or evening rounds, or in the middle of the night.

At the present time, new and fascinating fields of surgical practice, such as vascular and thoracic surgery, are crowding the headlines. It is important, therefore, that, from time to time, the fundamental principles of abdominal surgery be re-affirmed.

It is my intention to depart, in some respects, from the usual texts, in the hope that I may draw from instances in my own experience which may be of some interest to you in the future.

^{*}Presented at Annual Meeting, Maine Chapter, American College of Surgeons, June 4, 1955.

^{**}Chief Surgeon, Mercy Hospital, Portland, Maine.

I have been distressed on infrequent occasions to note that decompression of the stomach has not always preceded operations such as suppurative appendicitis, or repair of strangulated hernia. The scaphoid abdomen does not alter the necessity for these preliminary precautionary measures. An accurate estimate of the patient's vital organs and systems, as well as attention to reasonable detail in the preoperative restoration of fluid and electrolyte balance should need no comment.

The prevention of disease is more important than its cure. Approximately 50% of cases of small bowel obstruction are due to adhesions, either post-operative or post-inflammatory.⁽¹⁾ In the post-operative group, which comprises about 40% of the total, we face the necessity at each new operation of accepting the hazards of starting a chain of events which may persist throughout the patient's lifetime. This is particularly true where the indications for surgical intervention are not too clearly defined. We must avoid, if possible, these factors during the conduct of operative procedure which contribute to this complication, which may come early or late.

In the post-inflammatory group, which comprises about 10% of the total, appendicitis, with perforation and peritonitis and its attendant paralytic ileus, fresh adhesions between loops of distended edematous bowel, and localized abscess formation probably take first place. The necessity for maintaining decompression of the upper intestinal tract long enough for resolution of this pathological process to take place should be emphasized. It is important that the already overworked bowel should not be jeopardized by swallowed air and increased intestinal fluids.

I believe that the placing of abdominal incisions is an important consideration in the prevention of wound disruption in the early post-operative period, and in the prevention of disabling post-operative herniae in later life. It is very distressing to be confronted with the obese, frequently elderly, individual, whose post-operative hernia is causing a considerable degree of disability; containing, in some instances, varying amounts of intestine, which has lost its right of domicile within the true peritoneal cavity.

I am coming to feel rather strongly that the vertical muscle-splitting incision is too commonly used, particularly in the upper abdomen, where it is, of necessity, oftentimes a fairly long incision. Its tendency to wound disruption is notorious, even in the absence of clinical evidence of wound sepsis. It is under greater strain during the immediate post-operative period than the oblique or transverse incision. In the lower abdomen, particularly in the moderately obese elderly individual, especially if drainage must be employed, one should give careful consideration before abandoning an approach through an oblique incision to an acute inflammatory lesion. I have been interested to see my opinion in this respect confirmed in the recent surgical literature.⁽²⁾

Whenever it is considered necessary to make a vertical incision in a poor-risk patient, if there is likelihood of post-operative distention, and particularly in all secondary closures, the wound closure should be made with through and through sutures, including all layers, and these sutures should stay in twenty-one days.

Anything which will reduce the incidence of post-operative herniae and wound disruption will reduce the hazards of intestinal obstruction. External hernia strangulation accounts for 35 to 40% of the cases of intestinal obstruction. It is not necessary to point out that if the hernia had been repaired earlier, strangulation of the bowel should not have resulted. If, instead of looking with a certain amount of tolerance upon the individual who comes to us with some unassociated complaint — wearing a truss, and not infrequently a double truss — we should exercise the same zeal in the prevention of small bowel obstruction which we use in instructing the public regarding the early recognition and prompt attention to other clinical entities, it is a safe bet that our efforts would yield as much in terms of benefit to the public. Furthermore, it is important in operating on incarcerated herniae, that the contents of the sac be carefully visualized before it is allowed to slip back into the peritoneal cavity. This is done by opening the sac and inspecting its contents before releasing the constricting band.

I shall not dwell upon the obstruction of the first portion of the duodenum, which belongs more properly in the field of gastric surgery, but I do want to say something about the blown-out duodenal stump because, while it is a complication of gastric surgery, it is usually the result of varying degrees of closed loop obstruction in the afferent loop. Obstruction of this afferent loop, after gastric surgery, is one of the most lethal forms of small bowel obstruction. It is difficult to identify and difficult to care for. There are two maneuvers which I feel tend to minimize the incidence of this condition.

1. Attaching the afferent loop to the greater curvature.
2. Putting a catheter into the duodenum, and bringing it out through a stab wound in the abdominal wall.

I have had one experience of a duodenal fistula in a patient whom I saw for the first time two weeks after secondary exploration of the common duct. In that instance, I was able to get a Harris tube beyond the fistula into the jejunum, for use as a feeding jejunostomy tube, while water suction was maintained on the duodenal fistula at the skin level, until it closed spontaneously.

Severe trauma to the upper abdomen resulting in retro-peritoneal hematoma and devitalization of the 3rd and 4th portions of the duodenum has occurred once in my experience, finally necessitating a gastro-enterostomy.

After consideration of intestinal adhesions and strangulating herniae, which account for 85 to 90% of all cases of intestinal obstruction of the small bowel, the remaining 10 or 15% include such conditions as vol-

vulus, intussusception, mesenteric thrombosis, gallstone ileus, congenital malformations, foreign bodies, and neoplasms. The last may be due to primary tumor of the small bowel, small bowel loop caught up in a malignant lesion of the colon, or to obstruction of the ileo-cecal valve, where the problem is one of carcinoma, or, less frequently, tuberculosis of the cecum.

It is generally recognized that most instances of small bowel obstruction occur low in the small bowel. The disadvantages of the distended intestine extruding onto the abdomen, the difficulty of finding the relieving the obstructing mechanism without soiling, and its attendant sequelae, are well-known. The desirability of deflating the intestine by an enterostomy in one of the readily available distended loops has been well-established. Recently, an ingenious and, I believe, very practical modification of this procedure has been reported.⁽³⁾ "This is accomplished by bringing the highest available jejunal loop into the incision, identifying its proximal and distal ends. A purse-string suture is placed, taking three bites which pierce all layers of the bowel wall, and a half knot is tied. The point of a specially designed trochar is then pushed through the center of the purse-stringed area by the operator. Two tubes lead away from the metal tubes comprising the handle; one to the suction machine, and the shorter one to the floor, where pressure on the tube by the operator's foot either maintains or breaks the suction. Usually one introduction of the trochar is sufficient, as from twelve to eighteen feet of bowel can be threaded on the barrel and, as the gas-filled loops become empty, the amount of working space increases tremendously." This procedure would, of necessity, be of most value where there were one or two adhesive bands, and might not work out in the case where there were many adhesions.

It is usually bad surgical practice to attempt to crowd loops of distended small bowel back into the abdominal cavity, and to attempt a peritoneal closure under these conditions. I believe that it is preferable and less shocking to the patient to do an enterostomy near the terminal ileum; and, starting at or near Treitz ligament, strip the small bowel, allowing the enterostomy to drain through a tube over the table. Twenty years ago, the late David Cheever demonstrated the feasibility of such a maneuver, and I have had occasion to practice it in several instances.

In dealing with single or multiple internal fistulae, as in regional enteritis, it is sometimes good practice to transect the small bowel, bring the distal end out to the skin where it may remain indefinitely as a mucous fistula, and do an ileo-colostomy with the proximal end of the divided segment. This avoids the hazard of a closed loop obstruction, which sometimes occurs if the stump of the distal loop is closed and dropped back into the peritoneal cavity. At the first sign of trouble, one can pass a Miller-Abbott tube into the distended defunctioned loop. At the appropriate time, it is a relatively simple procedure to close this fistula extra-peritoneally,

leaving it in the subcutaneous space outside the fascia, well-marked with black silk, where it may be easily available. It is possible that in the future, we may see an increased instance of strictures of the small bowel from healed tuberculosis. Lesions of the small bowel are notoriously difficult to demonstrate by x-ray, and during our time, many people with active tuberculosis and mild gastro-intestinal symptoms have been in sanatoria, where the services of a roentgenologist, skilled in the examination of the gastro-intestinal tract, may not have been available. Ulcerative tuberculosis of the small bowel, as you well know, causes lesions encircling the lumen of the bowel. The result of healing of these lesions with the benefit of Streptomycin is the inevitable stricture.

The necessity for deflation and continued decompression of the intestinal tract in the presence of intra-peritoneal sepsis needs no elaboration. It must be carried out as a definitive procedure by an aggressive program of tube decompression. Any interruption in the passage of the decompression tube, any increase in size of the intestinal loops, should be looked upon with alarm. I firmly believe that there is still place for enterostomy in an isolated distended loop of small bowel, which cannot be deflated from above, and that after this procedure has been carried out, the bowel will frequently let go. The inflammatory exudate or mass, which is causing malfunction or obstruction, may prevent the passage of the tube, but once the distended loop has been decompressed, normal function will frequently be resumed.

I would emphasize that the post-operative distention without clinical evidence of mechanical obstruction or peritonitis, is no occasion for watchful waiting or wishful thinking. I have seen one case of post-operative ileus in a young adult, following nephrectomy uncomplicated by sepsis, which went on to general peritonitis due to absorption from the bowel devitalized by distention without mechanical obstruction. Vigorous diagnostic and therapeutic measures are in order for the recognition of fluid and electrolyte imbalance, including potassium deficiency. One must be mindful of excessive loss of salt in the salt-losing kidney, due to adrenal failure from profound sepsis, or from any other cause which we do not understand, and substitution therapy in the form of concentrated salt solution should be administered judiciously as indicated.

Eliason once said, "Don't let the sun rise or set on a case of intestinal obstruction." This dictum was pronounced at a time when the scalpel and the ether cone were the only proven therapeutic agents. I am sure that if he were alive today, he would modify this statement to read, "Don't fail to give the case of intestinal obstruction the time and attention to detail before, during and after the operation which it deserves."

I think it is just as well if the surgeon who is confronted with a serious small bowel problem, either as a primary condition or secondary to some recent opera-

tion, does not allow himself to become too involved in other matters. Better to cancel or postpone a few elective cases and office consultations, and save your energy for the hours which you may have to spend by the bedside or at the operating table, which, in the end, may make the difference between success or failure in a field where the operative mortality is still too high.

Get as much help as you can from your medical colleagues, from the x-ray and laboratory departments, and from your fellow surgeons, but never lose sight of the fact that it is your job to run the show, and take the responsibility for every step of the way. It is up to you to make the final decision as to whether decompression of the alimentary tract is progressing in a satisfactory manner. All others who are concerned with the case are strictly in the role of consultants. There are many problems in this field, which I have not touched upon, especially the field of intestinal surgery in infancy and childhood. Except for the abdominal distention as a complication of peritonitis, my experience has been limited in this field. I believe that where the community is large enough, it may be well for these conditions to be assigned to perhaps two or more of the younger surgeons, who would live long enough to build up an experience, which might be of some service to the public.

In reviewing the progress which has been made in the knowledge of the basic physiology of the gastrointestinal tract, one must stop to pay tribute to the monumental work of Wangenstein, to the strides in anesthesia, to our present concepts of fluid and electrolyte balance, and to the exhaustive treatise of the surgery of infancy and childhood by Ladd and Gross; also to the use of antibiotics, the x-ray as a diagnostic instrument, and the use of blood transfusions when indicated.

I feel confident that the next thirty-five years will see as much progress, at least, as the last thirty-five have brought. What form this progress will take, I cannot foresee. It may be in the refinement of the Cortisone-like drugs, or perhaps the prevention of disease through education of the profession and public, but whatever progress is made, it will not replace the careful attention to detail, which is so mandatory in these cases.

In closing these remarks, I should like to quote again from DeCosta, whose textbook, some thirty-five years ago, was my surgical bible. He said, "I cannot put in everything pertaining to surgery. I must leave out many things, but I follow the sound advice of Sidney Smith, and have the courage to be ignorant of a great many things, in order that I may avoid the calamity of being ignorant of everything."

DO'S AND DON'T'S

1. Don't depend too much on auscultation of the abdomen. Auscultation of the abdomen is like auscultation of the chest; it has its limitations, and may be misinterpreted.

2. Don't operate on an acute abdomen, or any chronic condition of the upper abdomen, without a Levine tube in the stomach.
3. Don't try to re-establish the continuity of the intestinal tract in the presence of intra-peritoneal sepsis.
4. Don't try to do an intestinal anastomosis in a hole under poor relaxation.
5. Be mindful of blood loss and electrolyte deficiency in strangulation obstruction, which may be asked in the laboratory reports, due to dehydration.
6. If you are suspicious of Potassium deficiency in the face of normal laboratory determination, get an electrocardiogram.
7. Remember that strangulation obstruction is not always demonstrable by x-ray; and conversely, that tenderness over a distended loop of bowel which lies beneath an abdominal scar, does not necessarily imply strangulation.
8. Choose well the cases which come in with signs of obstruction, who have had several previous laparotomies.
9. Recognize serosanguineous discharge from a post-operative wound as prima facie evidence of wound disruption, although the skin may be intact. Put in a Levine tube; take patient to the operating room, and, under spinal anesthesia or its equivalent, prepare the abdomen, remove the sutures, and repair the defect with through and through sutures.
10. Do not neglect to treat the ileus, which is an inevitable result of this complication.
11. Be mindful of intestinal complications and wound disruption in necessary operations during pregnancy.
12. Do not give an enema or morphine before getting a plain film of the abdomen, if intestinal obstruction is suspected, but decompress stomach and note character and amount of contents, because a dilated stomach may mask the disturbance of the small bowel pattern.
13. I believe there is no place in abdominal surgery for the administration of Pituitrin or Pituitrin-like drugs.
14. I believe there is no place for laxatives in the post-operative patient.
15. Don't do a side to side anastomosis if you can avoid it.
16. Remember that gas or fluid distention of the stomach is a late, and not an early manifestation, if the obstruction is low in the small bowel.

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Benignant Hypertension of the Squirt Variety

PHILIP P. THOMPSON, JR., M.D.*

INTRODUCTION

Is high blood pressure always serious, and indicative of an early death? Does a heart murmur mean the patient is soon to be a cardiac invalid? How many patients are living healthy happy lives with both of these conditions? How long do they live on with or without symptoms? Only the "old timers" can answer these questions, for many of these patients outlive their doctors.

The frequency of these findings occurring simultaneously has been impressive. To explain a possible theory for the coexistence of these conditions, a group of 35 such patients were selected, five autopsied cases, and pertinent reports from the literature were compounded. Naturally this information fits the theory for it was chosen to do so. Whether the facts will bear out the theory, only the scrutiny of the pathologist and the keen ears of the physician will be able to decide.

During the routine examination of the aging population, there has been a striking number of older people with "hypertension." This has been particularly notable among females. There were two features characterizing this group which led to the presentation of this material. The first was the relatively benign course of the hypertensive state and secondly the frequency of aortic or basal systolic murmurs which were transmitted to the neck.

In following this group of patients over a period of years, certain changes were noted. The murmur generally became louder, aortic diastolic murmurs often appeared, cardiac enlargement progressed slowly, the blood pressure and pulse pressure gradually dropped, and when incapacitating failure occurred death came shortly thereafter.

The fact that one such patient, P.S. followed this course during the last 5 years of his life and was found to have severe calcific aortic stenosis at autopsy, led to the supposition that many of these other patients represented various stages of the disease calcific aortic stenosis.

CLINICAL DATA

The 35 patients reported, Figure 1, were selected because they fulfilled the following criteria. There was no history of rheumatic fever. Some degree of hypertension was found except when stenosis was apparently severe. The Serologic test for syphilis was negative. Some degree of cardiac enlargement, and Gr. II or

greater systolic murmurs at the base with transmission to the neck, were present. The course of their illness was benign and protracted in the large majority of cases.

SIGNS AND SYMPTOMS

As can be seen in Figure 1, thrills were present in 15 (43%), diastolic murmurs in 10 (28%), 6 had cerebral symptoms — usually dizziness or giddiness, 2 had Parkinsonism, 2 syncope on effort, 2 brachycardia less than 60. 7 had had C.V.A.'s or cerebral symptoms, 16 angina on effort, 2 had myocardial infarcts, 2 diabetic retinopathy and 17 had signs of congestive heart failure. Five or 12% have died. However, except for those who have died, the others are ambulatory and carrying on with their limitations.

These symptoms are in accord with those found in a study by Kumpe and Bean,⁽¹⁾ of 107 autopsied cases of "Pure Aortic Stenosis."

BLOOD PRESSURE

Most of the patients had evidence of benign hypertension manifested by a low diastolic pressure and wide pulse pressure. Only one of the patients, H.G. who had been followed over a year, has had a persistently elevated diastolic pressure over 100. Generally, the pulse pressure in the early stages has been wide, 100 or over in 18 (45%) and 80-100 in 9 or (26%). If one excludes from this group the patients with basal thrills, 6 patients, who would be anticipated to have a greater degree of stenosis, there is only 1 patient who had a pulse pressure of less than 80, and that patient had only a single blood pressure recording.

INCIDENCE OF AORTIC STENOSIS

Among 15,016 autopsied cases at the Cincinnati General Hospital, "Kumpe & Bean,"⁽¹⁾ found 107 cases of "Aortic Stenosis" in which only the aortic valves were involved. In an analysis of 2500 autopsies at the Maine General Hospital in a 10 year period, 6 cases of "Pure Aortic Stenosis" were found.

"McGinn & White"⁽²⁾ found among 6800 autopsied cases at the Massachusetts General Hospital 35 pure aortic stenosis without mitral lesions and 58 cases diagnosed clinically aortic stenosis among 4800 patients with cardiovascular disease. The incidence in these two series of "Pure Aortic Stenosis" is .5% and 1.2% but in association with mitral disease — 1.8% and 2.3% respectively. Thus, the incidence among autopsied cases is between .2%-.6% in these three series. This appears to be the incidence of the final stage of the disease, rather than that seen by the practicing physician.

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The 2.3% among the clinical group is more nearly the number seen by the physician in his office.

INCIDENCE OF AORTIC SYSTOLIC MURMURS

During the examination of 6413 patients with cardiovascular disease, "White et al,"⁽³⁾ found that .5% had aortic systolic murmurs of Gr. IV-V intensity but 8% of 7111 patients had aortic murmurs of Gr. II-III intensity. In this series herein reported 11 or 32% had murmurs of Gr. IV or more intensity. The discrepancy in these figures seems to be best explained by the fact that this study involves an older age group and that the female-male ratio is 2-1 as compared with White's cases 2-3. As had been stated by others⁽¹⁾ this form of aortic stenosis is predominately that of the 6th and 7th decades, so in the older patient louder murmurs could be expected.

FAMILY HISTORY

In general, both parents of the present series lived to a "ripe old age." Of the 70 parents, age of death data is available on 56 parents. One lived to be over 90. 14 over 80, 16 over 70, 8 over 60, 5 died before the

age of 50 of acute non-vascular illness. Thus, thirty-nine lived to be over 60, and 44 of the 56 did not die an early vascular death.

Among the parents the incidence of late vascular disease, or "Arteriosclerosis of aging" was high. 35 parents died of cardiovascular disease.

There was no history of rheumatic fever or rheumatic heart disease as a cause of death in any parent.

LENGTH OF FOLLOW-UP

Eleven patients were followed more than 5 years, another eleven followed more than 2 years, 7 more than a year, 6 less than a year and 6 patients were seen only once.

MORTALITY

Five of the 35 patients have died; all of whom were between 65 and 78 years of age. Two died of intractible failure with oliguria. One died of ventricular fibrillation, another of congested heart failure, and another of cerebral anoxia. Two males and one female carried on usual activities within 4 days of death, and the two females within a month of death.

FIGURE 1

Pt.	Age	Sex	I.V.	D.D.	P.P.	Max. BP	Min. BP	Murmur Grade	Thrill Grade	CM. M.S.A.	Parents Age of Death		Clinical Signs or Symbols
											F	M	
O.A.	67	F	'54		100	260/120	200/100	3s 2d	0	14	60	47	Diab, Ang. CHF
M.B.	75	F	'53		70	170/110	160/90	4	2	11.5	62	62	Vert. CHF.
*C.B.	75	F	'47	'55	80	190/110	150/80	4	0	11	62	62	CHF. CER. A.S.
G.B.	71	M	'54		60	140/80		4	1	10	88	88	—
G.C.	71	F	'55		75	215/130		3	0	12	50	84	CHF
M.F.	71	M	'52		130	230/100	190/85	3s 2d	0	12	81	83	Chr. Pyel.
A.F.	65	F	'54		150	230/80	200/70	4	1	11	60	25	Ang, CHF.
L.G.	70	M	'48		140	240/100	180/80	3	1	11	86	62	Ang.
J.G.	68	M	'52		70	130/70	110/90	5s 2d	2	11	83	78	Ang, Syn, CHF
J. Gil	75	M	'50		170	260/70	160/40	3s 2d	3	12.5	64	78	Ang, CHF, gout
*I.G.	72	F	'51	'54	115	210/95	160/80	5s	3	13			Ang. CHF.
A.G.	72	F	'50		95	180/85	130/70	5s	3	13			INF. Vert, Diab.
H.G.	50	F	'48		120	260/140	210/115	4s	1	14.5	80	76	CVA. CHF
C.H.	80	F	'52		70	160/90	130/80	4	1	10	77	85	Vert., Cer. A.S.
E.H.	75	F	'53		100	160/60		3	0	9			Ang, CHF
M.J.	67	M	'49		80	180/100	160/90	2	0	10	76	76	2 Inf. CVA
F.K.	88	F	'51		120	260/110	200/80	3	0	11	76	32	PVD, CHF
H.K.	74	F	'51		110	230/80	180/70	4s 2d	1	13			Ang, CHF, Park.
A.K.	64	F	'52		90	190/115	180/90	4	1	11.5	57	91	Vert.
E.L.	74	M	'55		100	200/100		4s 2d	0	11.5	84	80	CVA
E.M.	72	F	'52		110	220/110	190/100	3s	0	12.5	57	66	Ang.
*R.M.	74	M	'54	'55	80	170/90	160/80	4s 1d	0	10.5	54	93	Ang, Cor. Insuff.
G.M.	55	M	'54		80	170/90		3	0	9.5	80	80	—
L.M.	73	F	'50		90	160/90	150/60	3	0	10.5			—
C.P.	75	F	'49		100	190/90	180/70	2	0	11.5	54	75	Vert, CHF, CVA
H.P.	69	F	'55		100	190/90		2	0	15	71	67	Diab, CHF, PVD
*P.S.	68	M	'48	'53	60	140/80	100/80	3s 2d	1	12	73	81	CHF, Ang.
D.S.	52	F	'53		80	190/110	160/90	2	0	8	84	75	Ang, Syn.
N.T.	74	F	'55		100	185/85	170/80	3	0	11.5	77	48	PVD
M.W.	60	F	'55		80	170/90	130/70	3	0	10	75	64	Ang. Inf.
*M.W.	78	F	'52	'55	120	210/90	140/40	4s 3d	0	14	50	73	Ang, CVA, Syn.
N.Y.	73	F	'47		100	230/125	130/75	3s	0	11	80	47	—
R.Y.	73	M	'50		50	140/90	120/80	3s	1	11	70	74	CHF, Ang.
E.H.	63	M	'54		100	170/100	150/85	2	0	9	65	75	Parox, Tach.
J.N.	77	F	'48		110	230/100	180/70	3s 3d	2	10.5			Ang, CHF, Syn, Vert.

*Died; I.V.—Initial visit, year; D.D.—Date died; P.P.—Pulse pressure; M.S.A.—Mid Sternum-apex in CM; Ang.—Angina; CHF—Congestive heart failure; Syn.—Syncope; CVA—Cerebrovascular accident; Inf.—myocardial infarction; Vert.—Vertigo; PVD.—Peripheral vascular disease; F—Father; M—Mother; s—systolic; d—diastolic.

Figure 2 gives data on the five patients of the series that have died and 5 others with autopsy data.

COMMENT

The 10 deaths here presented had clinical signs of aortic stenosis. One of the six autopsied cases were diagnosed antemortem. None had signs of mitral disease, clinically or at post mortem. Three died a non-cardiac death. Two of these had prolonged sickness, one (R.M.) had carcinoma of the lung as cause of death and minimal signs of congestive heart failure. One (E.W.) had been bed-ridden for some time after prostatic surgery, had thrombophlebitis and multiple septic pulmonary infarctions and died a septic death.

One (M.W.) had acute gastrointestinal bleeding with hemoglobin 7.28 Gm. and hematocrit of 18 on arrival at hospital. Within 36 hours — blood volume restored to hematocrit of 46 but urea rose to 86 and patient remained in coma with flaccid quadraplegia and bilateral extensor plantar responses. There was no evidence of congestive heart failure. It was felt that patient had irreversible brain damage from cerebral anoxia — possibly augmented by aortic stenosis and toxic effects of absorption of blood from G.I. tract. The other seven died a cardiac death, six in cardiac failure.

In contrast to the cases of sudden death reported by "Marvin & Sullivan,"⁽⁴⁾ only one patient died suddenly, although as has been pointed out several died within a few days of the onset of their final illness.

The aortic valves in all cases were calcified; cusps were fused, some had nodules of amorphous calcium deposits, and all had narrowed apertures from size of admitting tip of little finger to just large enough to pass tip of small scissors. There was only one (A.G.) of the group who had signs of myocardial infarction at post mortem and another (R.M.) who clinically had myocardial infarction although E.C.G. taken 3 hours after onset of substernal pain showed coronary insufficiency, and died within 6 hours of ventricular fibrillation.

DISCUSSION — HISTORICAL

Even as far back as 1672 "Petrifaction of Aortic Valves" was described "Wilkes & Moxon"⁽⁵⁾ in 1875 described typical cases of calcific aortic stenosis occurring in "hale looking old men who never had dropsy" but who died suddenly and found to have nearly absolute obstruction at aortic valves. They pointed out how comparatively innocent is simple obstruction of the aorta.

ETIOLOGY

There has been much discussion and theorizing regarding the cause of calcific aortic stenosis. Many authorities feel that it is due to rheumatic fever, others to intercurrent infections especially tonsillitis, others to Mönckeberg's sclerosis of the aortic valves. Undoubtedly all theories are correct and all incorrect for specific instances of calcific aortic stenosis.

It seems more likely that this series more nearly represents the Mönckeberg's sclerosis variety and the type which will be seen more and more frequently as it is searched for clinically and at autopsy in the aging population.

The following clinical signs are presented that this is Mönckeberg's sclerosis with atherosclerosis of the large vessels of the body with loss of elasticity of the aorta and large vessels. This is manifest by palpable tortuous peripheral vessels, visible pulsation of carotids and subclavian vessels, wide pulse pressures, good bounding pedal pulses; few thrombotic episodes and at autopsy extensive atherosclerosis of the abdominal and descending thoracic aorta.⁽¹⁾ The atheromatous plaques seem to form first at the base of the valve-spreading toward the edge as contrasted with Rheumatic disease which starts at edge.

The symptoms which are in accord with this hypothesis are frequent symptoms of increased rate of blood flow; i.e. buzzing throbbing, tinnitus, roaring in the ears; many complaints of high pulse pressure; giddiness,

FIGURE 2

Name	Sex	Age	Max./Min. Blood Pressure	Grade Murmur Aortic	Aortic Valves	Heart Size G. or MS—A*	Cause of Death	Duration Terminal Illness
I.C.	F	72	210/96 —160/80	5s	—————	13cm.	Cong. failure intractible	1 mo.
C.B.	F	75	190/110—150/80	4s	—————	11.0cm.	Cong. failure, oliguria, uremia	2 wks.
R.M.	M	74	170/90 —160/80	4s 1d	—————	10.5cm.	Angina, vent. fibrillation	24 hrs.
P.S.	M	68	160/90 —100/80	3s 2d	2cm.-slit	12cm.		
M.W.	M	78	210/90 —140/40	4s	—————	750Gm. 14cm.	Cong. failure, oliguria, uremia Cong. failure, uremia, Acute G.I. hem.	1 wk.
E.G.	F	79	150/80 —110/70	4s	1cm.-slit	500Gm.	Cong. failure	1 wk.
A.H.	F	76	120/70 —110/65	3s	Fused cusps	600Gm.	Cong. failure, diabetes	2 wks.
L.M.	F	76	165/80 —100/60	3s	Slit	500Gm.	Ca of lung, C.H.F.	1 mo.
A.G.	M	74	? — 96/65	3s	Calc. cusps	400Gm.	Syncope, C.H.F. Post- trostatectomy	Death due to Ca of lung
E.W.	M	72	200/100—115/65	3s	Calc. nodules	475Gm.	Pulm. septic infarct.	Sudden death Septic death

*M.S.—A=Mid sternal-apex distance

faintness, vertigo and syncope on changes of position or on effort, and late signs and symptoms of markedly reduced cardiac output. Perhaps the most important feature which is additional proof of the etiology is the long protracted course, the longevity of this group of patients, and relative absence of thrombotic episodes which characterize the young hypertensive or endarteriosclerotic individual. The family history of relatively long life and occurrence of cardiovascular disease of age rather than stress, the latter manifest by essential hypertensive cardiovascular disease, is further evidence that this group of patients has an inherently good outlook for a long and relatively healthy life.

In short, this disease is a slow progressive one, just as is the aging process, with a generally favorable outlook when discovered early without loud murmurs or much cardiac enlargement. It would not be surprising to have a group of these patients reported 50 years hence whose average length of life, from onset of systolic murmur and slight rise in systolic pressure to death, was 20 years or more as contrasted to present average length of life of 2-5 years after diagnosis made clinically.

BENIGNANT HYPERTENSION

The preceding paragraph explains the reasons for calling the syndrome a benignant one. This type of hypertension is a benign, beneficent variety that the patient and doctor can almost welcome. It has a good prognosis for life and longevity. "Hypertension" has been such a "bug a boo" to patients and doctors alike that a kindly, optimistic, friendly type of hypertension is a relief to physician and patient alike. If the physicians henceforth will be able to recognize it as such, this paper will not have been in vain.

The principal purpose of this paper is to attempt to describe a favorable syndrome of cardiovascular disease which more physicians may recognize. As a result more patients may be reassured rather than scared by the words "your blood pressure is high"; now perhaps can be added, but, "that is a good thing in your case."

SQUIRT VARIETY OF HYPERTENSION

As is well known there are many factors which may be involved in any hypertensive situation. "Soderman"⁽⁶⁾ lists the following factors which might be involved in blood pressure and pulse pressures in this syndrome.

1. Pumping action of the heart.
2. Peripheral resistance.
3. Elasticity of the arterial walls.

In reference to our present problems, we can expect the pumping action of the heart to be normal or as the muscle hypertrophies to be even a little better than normal, giving more of a thrust to the "stroke output"⁽⁷⁾ in the early stages of the disease before significant narrowing occurs, that is an aortic valve area of less than .5 cm.⁽²⁾ The stroke index may be above normal as exemplified by two patients, (H.T. and S.T.) reported by Gorlin et al.⁽⁷⁾ As this disease progresses, the pres-

sure gradient across the aortic valve increases. However, in the early stages one would expect this to result in rise of systolic pressure and pulse pressure as left ventricular systolic mean rises and before dynamically significant stenosis occurs. This rise in pulse pressure as well as systolic arterial pressure is augmented in this circumstance by loss of elasticity of the arterial walls and little change in peripheral resistance at the aortic and arterial level. The result is a "squirt" ejection of blood into the aorta. The relative rigidity of the vessels transmits the maximum thrust force with louder than usual reverberation to the listeners' ears and thus a higher systolic pressure but lower mean arterial pressure. The physical laws and demonstrations of these facts have been presented in an excellent article by "Simon Rodbard" in an article on "Flow through the collapsible tubes."⁽⁸⁾

It should be evident from the above discussion that the physiologic principals involved refer only to the Stage I or II of Aortic Stenosis. The majority of patients herein presented fall into Stage I category and are not to be confused with Stage III or IV, late terminal stenosis when the aortic valve is .5cm² or less.

SUMMARY

1. Data from a group of 35 patients from our aging population is presented who have systolic murmurs at the aortic area and "benignant hypertension."
2. It is felt that this group is representative of the various stages of the slowly progressive condition seen at the autopsy table as calcific aortic stenosis.
3. Data on ten patients who have died is presented with autopsy findings in six of them.
4. Theories to explain the "Squirt Hypertension" and "Benignant Variety" are presented.
5. It is hoped that this syndrome will be recognized earlier and optimistic prognosis will be given to allay the fears of some of the patients with "high blood pressure."
6. Reassurance and symptomatic treatment rather than an expensive "Blood pressure pill" is the therapy for this, as well as perhaps most types of hypertension even in this enlightened year.

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Hamman-Rich Syndrome

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Since 1935, when Hamman and Rich⁽¹⁾ first described the syndrome produced by acute interstitial pulmonary fibrosis, about 30 cases have been reported in the literature. The increasing frequency of cases which have appeared in the past 5 years suggests that this condition is not as rare as it was once thought to be. Little has been added to the clinical and pathological description given by the original authors.⁽²⁾

Although many etiologies have been postulated including a variety of infections, hypersensitivity and chemical irritants, in no case of this syndrome has a definite etiology been established.⁽³⁾ Because of its occurrence in more than one member of a family, a genetic predisposition has been proposed and its pathologic similarity to scleroderma and other collagen diseases has been noted.⁽⁴⁾

Clinically, with one exception, all cases have terminated fatally over a space as short as 31 days and as long as 9 years.⁽⁴⁾ In most cases the onset is acute but it has been thought that the early stages may be subclinical, and the onset of symptoms marks the beginning of the terminal stage.

Most cases show a dry cough, increasing dyspnea and cyanosis. Fever is low grade or absent. Hemoptysis, weight loss, weakness, chest pain and clubbing of the fingers and toes may be present. Physical signs in the chest are minimal to absent despite a progressively downhill course. Although the x-ray appearance is not diagnostic the lungs usually show evidence of diffuse infiltration with military or nodular markings which gradually become confluent.

Pathologically the lungs are firm and dense with an appearance resembling liver. There may be a few emphysematous blebs on the pleural surfaces.

Microscopically there is a diffuse inflammatory reaction involving the alveolar walls with desquamation of the alveolar lining cells. Early there is fibroblastic proliferation which goes on to mature dense fibrous tissue which is responsible for the dyspnea and cyanosis;⁽⁵⁾ a typical example of alveolo-capillary block, a pure diffusion defect in which ventilatory capacity is essentially normal. Diagnosis has been made by autopsy or in recent years by lung biopsy.⁽⁷⁾

Until the use of steroids, treatment has been invariably unsatisfactory but even with ACTH and cortisone there has been only one report of a clinical and x-ray remission of the disease, which has now been maintained for 17 months on a dosage of 40 mgm. of cortisone daily. These authors emphasize the impor-

tance of early diagnosis before mature fibrous tissue is deposited as it is felt that cortisone will work only in the stage of early inflammatory reaction and fibroblastic proliferation.⁽⁷⁾ In all other cases reported treated with cortisone and ACTH, improvement was temporary and there was severe relapse when the dosage was reduced or the drug stopped. Furthermore the patient did not respond when therapy with a higher dose was restarted.^(2,6)

The case reported here is of interest for several reasons. At nine years of age this patient is much younger than any reported to date. The ages in previous cases has varied from 21 to 68 years. The course was very acute in a previously well boy — 38 days. The diagnosis was made clinically during life.

Treatment with meticorten in large doses resulted in very little clinical improvement despite the brief duration of symptoms.

Case Report. A nine-year-old boy was admitted to the hospital on 12/25/55, and expired on 1/9/56. He had been completely well and free of symptoms until 12/22/55, 38 days before death, when he was sent home from school because of headache and malaise. Three days later he developed cough and soreness of the throat, accompanied by weakness but no elevation of temperature. He was treated at home with a cough mixture and syrup of gantrisin and appeared to improve somewhat until the night before admission when he was noted to have a low grade fever and marked dyspnea.

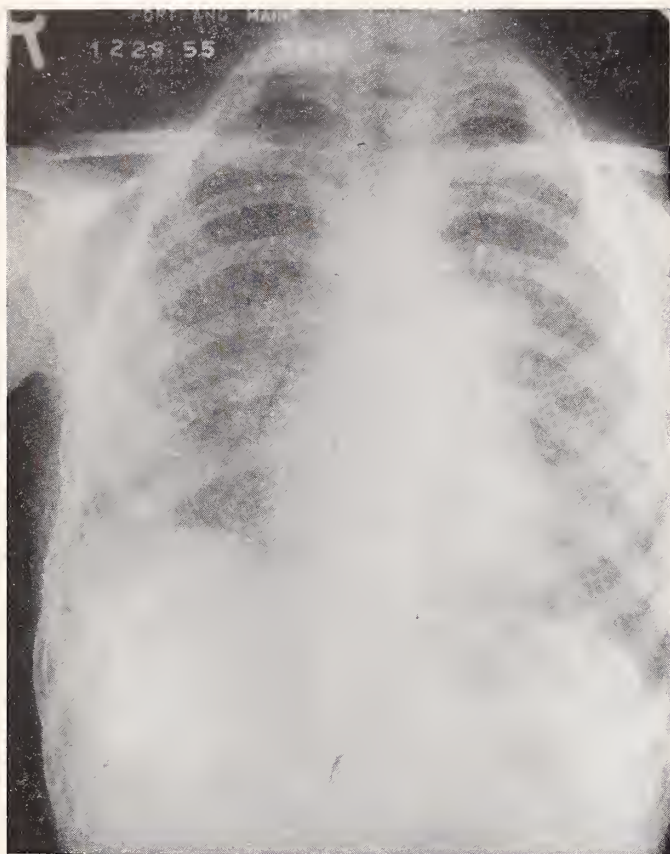
Past History: Measles, mumps, chicken pox, whooping cough in childhood. No operations or injuries. No history of allergic diseases.

Family History: Father, mother and four siblings living and well. No known history of tuberculosis, cancer, diabetes, asthma or arthritis.

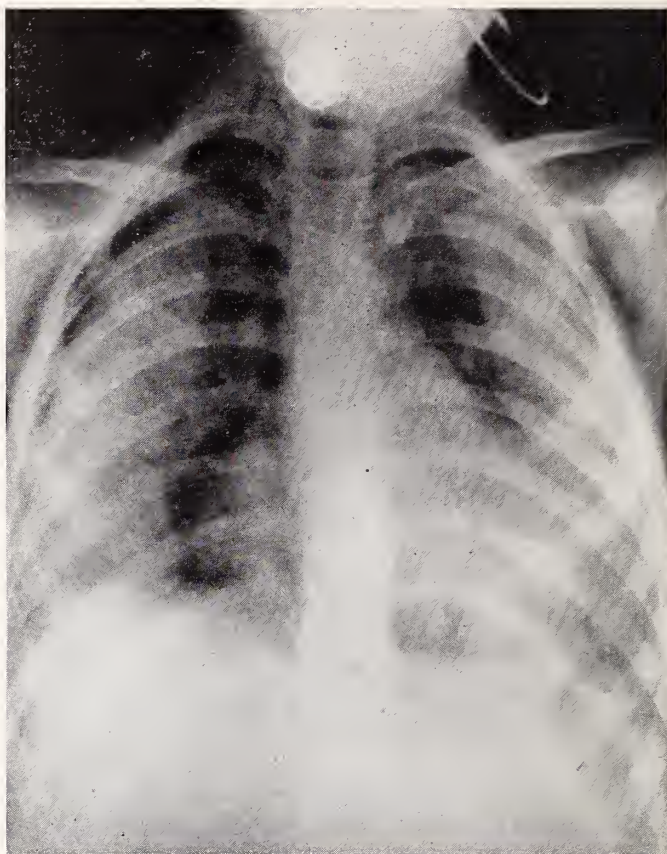
Physical examination on admission: The tongue was dry and there was a slight mucoid exudate in the pharynx. Auscultation of the lungs revealed fine crackling rales over the right lower chest, no murmurs were heard. Patient was markedly dyspneic and slightly cyanotic. The skin had a yellowish tinge. The admission diagnosis was pneumonia and dehydration. X-ray disclosed prominent hilar shadows, bilaterally with finely scattered nodules and linear infiltration extending downward and upward from the hilar region into the lower lung fields. (Illustration No. 1). X-ray of the chest four days later showed further pneumonic infiltration. The diagnosis was bilateral bronchopneumonia, confluent at the right base. Penicillin and then chloromycetin were administered throughout his hospital stay.

On 12/29/55, the child seemed about the same clini-

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No. 1. Increased hilar density and fine nodularity through both lung fields.



No. 2. Right pneumothorax and mediastinal emphysema. The right lung is so firm and dense that it does not collapse.

cally but was definitely more comfortable in the oxygen tent. The abdomen was soft, heart rate was rapid but the sounds were of good quality. There was no enlargement of the liver. The chest again revealed diminished breath sounds on the right, no rales could be heard. On 12/26/55, red count 4.75; hemoglobin 93%; white count 12,250; polys. 81%; lymphocytes 18%. The red cells appeared normal. On 12/28/55, white count 25,000 with polys. 72% and lymphocytes 27%. Blood culture on 1/6/56, showed no growth. The child was digitalized. Throughout hospitalization he was very cyanotic unless in the oxygen tent. When seen in consultation on 12/29/55, by the writer, he appeared to be markedly cyanotic and dyspneic and extremely distressed when taken out of the oxygen tent. The chest was clear, heart rate was rapid at 120 per minute. No murmurs were heard. The abdomen was soft, liver, spleen and kidneys were not palpable. There was no edema of the extremities but the fingers were definitely clubbed. The picture as presented was consistent with an acute diffusion defect and the diagnosis of acute interstitial palmonary fibrosis was made. Meti-corten was started with a dosage of 100 mgm. daily and continued until the patient expired. Improvement was minimal but definite in that after two days of steroid therapy he was perfectly comfortable in the oxygen tent and could be taken out for a feeding and general nursing care without distress. On 1/7/56, he complained of severe anterior chest pain and became more dyspneic.

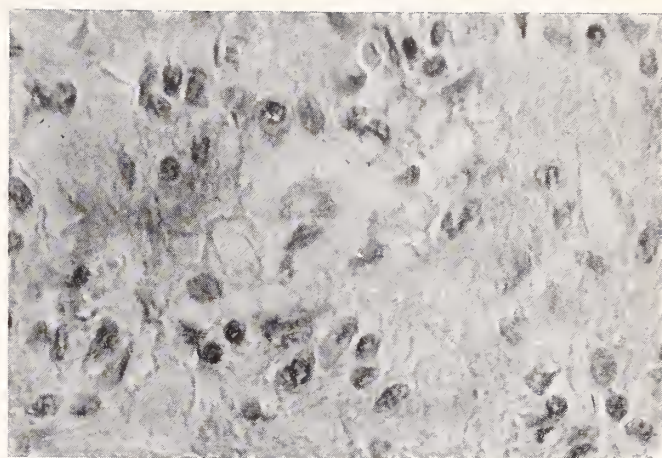
X-ray of the chest disclosed a spontaneous pneumothorax of the right lung, as well as extensive interstitial emphysema (Illustration No. 2). It was obvious from the x-ray picture that the right lung was so dense and firm that it did not collapse despite the infiltration of air into the pleural space. An attempt was made to aspirate air but this was unsuccessful and the patient went rapidly downhill and expired on 1/9/56.

At autopsy the positive findings were limited to the lungs. There was a considerable amount of air in the right pleural cavity which was opened under water. A similar procedure was done on the left but no air was present. A moderate amount of air was present in the anterior mediastinum extending up into the neck and both axillae. The lungs grossly showed the same findings. The surface was pale and on section the lung tissue was extremely hard in consistency. On pressure no pus exuded from the cut surfaces. They had a firm lobular appearance somewhat similar to the pancreas, suggesting the deposition of fibrous tissue. The bronchi appeared to be normal and contained no mucus or pus. (Illustration No. 3.)

Microscopically the changes were diffuse through both lungs. The lungs were converted into almost solid tissue by a marked proliferation of fibrous tissue which obliterated many of the alveoli. Those alveoli not so obliterated are in places lined by mononuclear cells. In other areas the entire alveoli are filled with mononuclear cells, some of which contain vacuoles of



No. 3. Cut surface of lung showing firm lobular fibrotic structure.



No. 4. Photomicrograph of lung demonstrating almost complete overgrowth of alveolae by rather mature fibrous tissue.

fat. Scattered diffusely throughout the entire lung are numerous lymphocytes. The bronchi contained no inflammatory exudate and there was no marked inflammatory reaction around the bronchi as one would expect in a virus type of bronchopneumonia. Culture of the lung was negative. (Illustration No. 4.)

The pathologic process in the lungs was the same type of acute fibrosis which was originally described by Hamman and Rich.

COMMENT

Despite the acute course of this disease the microscopic sections of the lung showed rather mature fibrous tissue overgrowth, which undoubtedly explains the lack of response to steroid therapy. Although the case reported successfully treated by Pinney and Harris⁽⁷⁾ had a comparably brief course, biopsy of the lung showed a much earlier stage of the disease with mostly fibroblastic proliferation, which is known to respond to steroid therapy.

SUMMARY

A case of Hamman-Rich syndrome diagnosed during life in a nine-year-old boy is presented. The patient had

symptomatic but temporary relief from meticorten therapy but expired from complicating spontaneous pneumothorax.

The assistance of Dr. Gerald C. Leary, Pathologist, Mercy Hospital, in describing the pathological findings is gratefully acknowledged.

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Dr. Murray to Assume AMA Presidency in June

Formal presentation of the American Medical Association's presidential gavel to Dr. Dwight H. Murray of Napa, Calif., will be made at the Inaugural Ceremony Tuesday evening, June 12, in the grand ballroom of Chicago's Palmer House. One of the featured attractions will be choral selections by the Bluejacket Choir of

the U. S. Naval Base at Great Lakes, Ill.

Plans are being completed to telecast part of the inaugural program over a local television station.

Immediately following the ceremonies, a reception and ball honoring Dr. Murray will be held in the Red Lacquer Room of the Palmer House.

Nisentil[®] in the Postoperative Period

FRANCIS X. MACK, M.D.*

The use of Nisentil[®] in the post-operative period has received little attention, though Nisentil has been shown to be of value in obstetrics,^(1,2) cystoscopic and endoscopic procedures,^(3,4) preoperative sedation,⁽⁵⁾ and anesthesia.⁽⁶⁾ This paper presents some of the observations noted following the administration of the drug to patients who were complaining of severe pain during the immediate post-operative period, and attempts to deduce some of the advantages and disadvantages of this analgesic.

A series of 114 consecutive cases were observed; they comprised approximately 6% of the patients admitted to the recovery room of the Mercy Hospital in Portland during the year of study. The patients were 33 men and 71 women, ranging from 6 to 86 years of age. Their operations included 38 cholecystectomies, 20 colectomies, 14 gastrectomies, 12 lobectomies, 2 pneumonectomies, 4 amputations, 7 open reductions for fractures, 11 operations for hip prosthesis, 6 nephrectomies, 2 cystectomies, 4 laminectomies, 2 operations on peripheral nerves, 1 spleno-renal shunt, and 1 ligation of the inferior vena cava. All observations were conducted in the post-anesthesia room by trained personnel who noted the clinical features of the patients, all of whom had fully reacted from the anesthetic so far as could be ascertained.

RESULTS

One hundred patients received 20 or 30 mg of Nisentil subcutaneously while they were complaining of pain. Of these, 91 were relieved. Complete relief of pain was obtained in 5 minutes of the time of injection for 5, by 9 minutes for an additional 7, by 12 minutes for an additional 74, by 16 minutes for 3 more, and at 20 minutes for the final 2; thus, 91% obtained relief of pain, and this came after about 12 minutes on the average. Their relief lasted from 30 minutes to 2 hours and 30 minutes, averaging 1 hour. This relief was classified as complete in 91%, partial in 5%, and none in 4%. The only signs of central nervous system depression noted in these patients were severe dizziness in a single case, and drowsiness which was noted in 52 cases. The patients who were made drowsy were those who obtained pain relief; they were dozing at intervals but all could be easily aroused.

A second group of 10 patients received 40 to 60 mg of Nisentil subcutaneously while they were complaining of severe pain. Of these, all received complete relief of pain which was obtained in 3 to 15 minutes, with the

majority free of pain in 9 minutes. Again, the relief lasted an average of one hour. However, 4 of these 10 showed some depression of their respiratory rate and diminished minute volume.

A third group of 4 patients received 30 mg of Nisentil intravenously. All of these obtained complete relief of pain within 45 to 65 seconds. Two of these showed some respiratory depression.

The only other side effect noted was a mild drop in systolic blood pressure in 5 cases, which averaged 15 mm of mercury. The most marked drop was in a hypertensive patient who received 60 mg of Nisentil; his blood pressure dropped from 180/100 to 140/95. No significant changes in the rate, rhythm or quality of the pulse occurred. There were no cases of nausea or vomiting which could be ascribed to the drug and no fatalities.

DISCUSSION AND CONCLUSION

Nisentil, a relatively new synthetic analgesic has been employed in a consecutive series of 114 patients complaining of severe pain during the immediate post-operative period. All patients were observed in the recovery room at the Mercy Hospital, and accurate notations recorded as to the efficacy and side effects of Nisentil.

We are of the opinion that Nisentil, when used in moderate dosages, serves as a safe and effective method of analgesia in these particular patients. It is recommended that the effective dosage need not exceed 30 mg in the average patient and that it be given subcutaneously. If the drug is to be administered intravenously, it should be used with caution.

Its particular advantages seem to lie in the fact that:

1. It has a rapid onset of action.
2. Since the duration of action is relatively short, it permits the nurse to encourage deep breathing and aerosol inhalation early in the post-operative period, thus lowering the incidence of pulmonary complications.
3. No severe adverse effects upon the cardiovascular system have been observed.
4. It does not apparently contribute to the disturbing symptoms of nausea and vomiting.

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*Department of Anesthesia, Mercy Hospital, Portland, Maine.

Participation of Physicians in Private Practice In Basic Tuberculosis Control Procedures

A. *Prevention*

1. Phases of program in which physicians can participate in a professional capacity.

- a. It is the responsibility of all physicians not only to inform his own patients and their families about the dangers of tuberculosis, its mode of spread and methods of control, but also to assist in preparing the disseminating informational material to the public in cooperation with the health department, tuberculosis associations, and other agencies interested in control and treatment of tuberculosis.

- b. Early casefinding and diagnosis:

- (1) The doctor's office is a productive site for casefinding. The physician should consider the possibility of tuberculosis in every patient and examine as many as possible by roentgenologic study, especially those with any suspicious signs or symptoms or with history of exposure to tuberculosis, x-ray, tuberculin tests and bacteriological examination should be used as freely as possible.

- (2) Physicians should examine all the contacts of their tuberculous patients to find the source of the disease and to detect its spread to others; or should make sure that they are examined by public health department or other clinics. Tuberculin tests and x-ray films should be used.

- (3) All physicians should encourage their hospitals to establish a program of routine hospital admission x-rays; if such a program is in effect, to promote its fullest use. As far as admission and periodic chest x-ray films in mental and other institutions are concerned, physicians can influence the responsible operating agencies to institute such programs.

- (4) Those physicians who sit on policy making committees should direct surveys to high prevalence areas.

- (5) Private physicians should welcome and support community x-ray surveys; they should participate in them as policy makers; each physician should make certain that suspects screened out by the survey are examined carefully using all the appropriate diagnostic tools; he should sit in on film reading sessions.

- (6) As consultants or board members for mental and penal institutions or as staff physicians, should promote routine and periodic chest x-raying in such institutions, as well as routine x-raying in jails.

- (7) Physicians should support and use laboratory services as needed and especially in doubtful tuberculosis cases. Accepted laboratory techniques, particularly culture and guinea pig inoculation examinations should be used since one should not rely on direct smears.

- c. It is the duty of all physicians to do everything possible to hospitalize every open active case of tuberculosis. If beds are not available, patients should be adequately isolated and treated at home. It is also the physician's responsibility to see that the patient remains under treatment for a period of time sufficient to reduce the possibility of relapse to a minimum.

- d. BCG vaccination of physicians, medical students, nurses, laboratory workers, contacts and others in the more vulnerable groups, who as non-reactors are exposed to tubercle bacilli, should be left to the discretion of the individual physician in the individual case.

2. Phases of the program in which physicians can actively cooperate with others in community projects.

- a. Private physicians should refer patients and families to health departments and other health agencies for bedside nursing care, assistance in isolation practices, epidemiologic investigations and family education.

- b. The private physician should refer tuberculous patients and their families to social services and public assistance agencies when necessary.

- c. Physicians, as citizens, can actively participate in community projects aimed at slum clearance,

Report of the Council on Public Health, American College of Chest Physicians.

Reprinted from "Diseases of the Chest," Vol. XXVIII, No. 5, November, 1955.

low cost housing projects and other movements aimed at general betterment of the community.

- d. The practicing physician should emphasize the importance of pasteurization of milk and milk products, and should support the tuberculin testing program for eradication of tuberculous cattle.

B. Treatment and Follow-up

1. Private physicians have always played and will continue to play a prominent role in the treatment of tuberculosis. While government sanatoria care for the majority of hospitalized tuberculous, many chest physicians, internists, and other specialists, are on consultant staffs and play a dominant role in setting treatment policies.
2. In the absence of sanatorium or hospital beds, medical care of tuberculous patients at home is largely in the hands of private physicians. Organized home care programs are operating in many communities in which private physicians should actively participate; they should make certain that patients receive necessary nursing and other services to aid in carrying out medical recommendations.
3. The new drugs have increased the number of tuberculous patients who are eligible for post-sanatorium ambulatory treatment. A large number of these are under the supervision of either private physicians or public clinics.
4. Physicians should perform and stimulate regular follow-up examination of tuberculous patients in the doctor's office or chest clinics. Physicians in private practice often serve part-time in tuberculosis or chest clinics, and all physicians should encourage good clinic service. Private physicians should welcome the help of public health nurses with patients' families and contacts to keep them under medical supervision and increase their understanding of the disease and its spread. In some communities medical social workers are available and can visit patients with social problems. Occasionally voluntary associations employ occupational therapists who can be of assistance to patients in their homes.
5. Ideally, no diagnosed case of tuberculosis should ever be dropped from periodic examination. However, after tuberculosis patients have been inactive for two years close supervision can be

relaxed. Physicians should, nevertheless, advise their patients with inactive disease to have an annual examination including an x-ray film.

C. Reporting

1. Physicians should routinely and promptly make out morbidity cards on cases of tuberculosis which come to their attention. If there is any doubt about a previous report being made, the physician should make one out anyhow to assure the completeness of registration and epidemiological follow-up. Death certificates should not only indicate tuberculosis as an immediate or ultimate cause of death, but also as an accompanying condition when present.
2. Private physicians should provide health departments with information about the current status of tuberculosis patients under their care so that continued knowledge and supervision of all cases of tuberculosis in the community is assured.

D. Provision to the patient of indicated ancillary services

1. It is the responsibility of the private physician to assess the patient's capacity for work in terms of residual disease in the lungs and/or other organs and determine the amount and types of activity permissible for the individual. He must make decisions as to whether or not the patient can return to his former occupation or whether he should return to one requiring less physical exertion. In this decision as in those relating to diagnosis and treatment he can to advantage avail himself of specialist consultation.
2. When it is evident that the patient is in need of vocational training to equip him to enter a new occupation, the physician should be aware of the facilities available for such training. He can call upon the services of the vocational counselor of the Division of Vocational Rehabilitation in his State or territory to assist him.

Council on Public Health

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Nisentil[®] in the Postoperative Period

Continued from page 108

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1956 Annual Session Notes

The Place — THE SAMOSET, Rockland

The Dates — JUNE 24, 25, 26, 1956

Evening Programs

● Sunday, June 24, at 6:30 P.M.

Speaker: Mr. Samuel H. Ramsey

Subject: Human Relations Is Your Business

● Monday, June 25, at 6:30 P.M.

Annual banquet preceded by cocktail party

Speaker: Mr. James M. Rogers, Assistant to the President
of the Ingersoll Milling Machine Company,
Rockford, Illinois

Subject: Two Ways to Slavery

● Tuesday, June 26, at 6:30 P.M.

Clam Bake

Guest: Governor Edmund S. Muskie

SCIENTIFIC COMMITTEE:

Francis H. Sleeper, M.D., Augusta, Chairman
Lloyd Brown, M.D., Bangor
Edward G. Asherman, M.D., Portland

Mahaney, M.D., has organized this effort. By doing his part, each Doctor of Medicine, can assist the committee

and the Public Relations Committee to make Medical Education Week successful in the State of Maine.

Your Senators and Mine

The Maine Senators have been asked by 'The Journal' to comment for publication

on

H.R. 483 —

a bill designed to allow osteopaths to be commissioned on equal status with Doctors of Medicine,

and

H.R. 7225 —

the bill designed to amend the present social security law to include benefits for the disabled and to lower the age at which benefits will be paid to women.

The comments of Senator Frederick G. Payne appear below. Senator Margaret Chase Smith's comments have not arrived in time for publication in this issue — but will be published later.

Both Senator Smith and Senator Payne are willing to cooperate with the Members of the Maine Medical Association by furnishing information on federal legislation for publication in the Journal. They are also interested in your personal views, as is indicated by the following quote from a March 23, 1956 letter to the Journal from Senator Margaret Chase Smith:

"The other day I had my files on H.R. 483 and S. 248 analyzed. That analysis showed that only two Maine doctors had written to me about these bills since they were introduced nearly fifteen months ago. Until last month you were the only Maine doctor who had written to me. Last month I heard from another Maine doctor."

Senator Symington's subcommittee — Senators Sym-

ington (D, Missouri), Smith (R, Maine) and Jackson (D, Washington) — has approved the military osteopathy bill, but differences over this issue between the Defense Department and the Surgeons General are holding up action by the Senate Armed Services Committee. It is expected that the views of the Secretary of Defense, Charles E. Wilson, on the commissioning of osteopaths in the armed forces will settle the dispute between his assistant, Frank B. Berry, M.D. (who is in favor) and the three Surgeons General (who are opposed).

The Department of Defense, represented by MD's Berry and Cushing, used the "paper" shortage of MD's in the service as a big stick when they testified in favor of commissioning osteopaths. But just recently the same department has decided to defer more young physicians to allow them to continue residency training. The Defense Department has increased the quota to be deferred from 500 to 900 — an increase of 80%. A significant point is that the Defense Department raised the quota without the concurrence of the Health Resources Advisory (Rusk) Committee, which opposes this program because it means that many more physicians in the older age groups will be required as replacements.

Also without the Rusk Committee approval, the Defense Department is planning to defer 1,000 members of the 1956 graduating class upon completion of their internships in 1957.

This means that many hundreds will be drawn from the ranks of established physicians in their 40's.

Are there mothballs in your sleeping bag, Doctor?

Two Controversial Bills — Senator Frederick G. Payne

Currently there are two controversial bills, H.R. 483 and H.R. 7225, under consideration by Senate Committees which have aroused a great deal of opposition from the medical profession. Because of this strong opposition, these measures are being carefully reviewed by the appropriate Senate Committees.

H.R. 483 is a bill to provide for the appointment of doctors of osteopathy in the Medical Corps of the Armed Forces. It was passed by the House of Representatives without debate on July 18, 1955, after it was favorably reported by the House Armed Services Committee. A special subcommittee of the Senate Armed Services Committee under the chairmanship of Senator Stuart Symington of Missouri held public hearings on this bill February 14 and March 2, 1956, but as of this moment the conclusions reached by the subcommittee have not been reported to the Senate.

H.R. 7225 is a comprehensive bill to amend the Social Security Act, passed by the House of Representatives on July 18, 1955 after it was favorably reported by the House Ways and Means Committee on July 14, 1955, without the customary public hearings. As passed by the House, H.R. 7225 contains the following main features:

1. Extends coverage of Old Age and Survivors Insurance to all self-employed professional groups now excluded (except doctors) and to certain other small groups.
2. Lowers the retirement age for women workers and wives and widows of insured workers at 62.
3. Provides monthly benefits to workers who have reached age 50 who are totally and permanently disabled.





ACHROMYCIN^{*}

Tetracycline Lederle

in the treatment of

respiratory infections


January and his associates¹ have written on the use of tetracycline (ACHROMYCIN) to treat 118 patients having various infections, most of them respiratory, including acute pharyngitis and tonsillitis, otitis media, sinusitis, acute and chronic bronchitis, asthmatic bronchitis, bronchiectasis, bronchial pneumonia, and lobar pneumonia. Response was judged good or satisfactory in more than 84% of the total cases.

Each month there are more and more reports like this in the literature, documenting the great worth and versatility of ACHROMYCIN. This antibiotic is unsurpassed in range of effectiveness. It provides rapid penetration, prompt control. Side effects, if any, are usually negligible.

No matter what your field or specialty, ACHROMYCIN can be of service to you. For your convenience and the patient's comfort, Lederle offers a *full* line of dosage forms, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Attacks the infection—defends the patient—hastens normal recovery. For severe or prolonged illness. Stress formula as suggested by the National Research Council. Offered in Capsules of 250 mg. and in an Oral Suspension, 125 mg. per 5 cc. teaspoonful.

 For more rapid and complete absorption. Offered only by Lederle!

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¹January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.



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4. Permits payment of survivor and/or dependents' benefits to disabled children over 18, if totally and permanently disabled before that age.
5. Increases the social security tax rate on employees, employers and the self-employed.

There are a great many problems involved in the disability benefits provisions of H.R. 7225 passed by the House. In addition to all of the administrative, medical, and social welfare problems involved in the disability benefits provisions, there are collateral issues to consider such as the relationship of these proposals to workmen's compensation, vocational rehabilitation, and accident prevention. All of the details of the problems involved in the disability sections of H.R. 7225 will have to be resolved before favorable action can be taken by the Senate Committee on Finance. This Committee under the Chairmanship of Senator Harry F.

Byrd of Virginia has recently concluded lengthy public hearings on this bill.

Because the disability benefits program included in H.R. 7225 would be a radical departure from existing social security concepts, it is my feeling that the whole question of disability benefits should be studied by a major commission to assess the problems of our disabled citizens, including, for example, the proper relationship between disability benefits and rehabilitation work.

From the way things look here in Washington at the moment, it would appear doubtful if the Senate will take favorable action this year on either H.R. 483 or the disability provisions of H.R. 7225 unless they are revised to meet the objections which have been raised. Thanks largely to the medical profession, precipitous action on two controversial bills has been prevented and both measures are receiving careful re-appraisal.

Another Senator Speaks

In another hearing before the Senate Armed Services Committee, the American Medical Association urged higher pay for medical officers. A discordant note was furnished by Senator Herman Welker (R, Idaho), who harangued at length and with irrelevancy upon American Medical Association's opposition to osteopathy and chiropractic.

Explanation of the strange performance by the Senator from Idaho, may lie, at least partly, in the fact that not one but two Doctors of Medicine are to be his opponents in the August primary, when he will seek re-nomination for another term.

Blue Shield

LINUS J. STITHAM, M.D.

Chairman of the Health Insurance Committee
of the
Maine Medical Association

I should like to preface this article by reviewing a little history. Some twelve years ago, officials of the American Medical Association met with the heads of four of the largest commercial insurance companies to urge them to set up a system of voluntary health insurance in order to combat the threat of socialized medicine. These men told the American Medical Association that, in effect, health was not insurable; that no actuarial figures existed and that they could go bankrupt selling this kind of insurance.

Despite this discouraging advice, various state medical societies went ahead and formed local Blue Shield plans. As of today, seventy-three different plans are in existence — covering a total of some thirty million people. Once the feasibility of this coverage was proven, the commercial companies came into the fields in full force.

Our own experience in Maine parallels the national picture. In 1948, we went before the legislature, ask-

ing for an enabling act to start our own plan; the bill was defeated. We then formed the so-called Maine plan with some nine or ten commercial companies. However, at the end of two years, due presumably to the apathy and reluctance of the commercial companies, only some ten thousand people were covered. Your committee then approached the Associated Hospital Service and persuaded them to start the present Blue Shield Plan which went into effect in May of 1951, and has made phenomenal gains — today one hundred and sixty thousand Maine people are covered.

What briefly are the essential differences between the commercial coverages now available and the Blue Shield Plan?

With the commercial companies, the consumer has a much greater flexibility. He can literally purchase almost any type of coverage he desires . . . for a price! Here in Maine for a long time, we have had only one basic contract. This, however, is being extended each

year in order to meet demands of large groups and unions. The two big differences are:

1. Since Blue Shield is non-profit, it can provide basic coverage at a much lower rate. While exact comparisons are difficult, the cost of the present policy for a family of four is around \$5.50 per month — under Blue Shield, \$3.00.
2. However, the greatest difference is, that we, the doctors, control Blue Shield — and have nothing to say about the commercial companies.

By last summer, the Maine Blue Shield plan was in financial difficulties. Primarily for two reasons: First, through trial and error, we discovered that dental extractions in the hospital were costing about forty thousand dollars a year; and that a like amount was being expended for hospital admissions of three days or less — some of which your committee felt might be classified as unnecessary, or questionable admissions. Therefore, in October 1955, a new contract was instituted with what was in effect a deductible clause, similar to your car insurance, in that the patient had to pay the doctor for the first three days of hospital care. This, plus the removal of dental benefits, has put the plan in the black. While these figures are unofficial and are projected from the first three months, it appears the plan will show a savings at the end of the year of about fifty thousand dollars.

In an effort to compensate the physician for emergency medical care which he might be called upon to render during the first three days, a plan was set up whereby he might be remunerated up to \$25.00 by submitting a separate claim form, listing the number of visits a day and amount of time spent with the patient. This, apparently, has not been understood by our physicians, because up to March 1, only seventy-one claims had been received. Of these, thirteen were already covered as they were for surgical services. This leaves forty-one out of fifty-eight as being approved — seventeen rejected.

In general, the new contract has been well received except by the internists, and to a lesser degree, by some of the generalists. Some tell us that even though they are aware that this is primarily a surgical and obstetrical plan, with the medical payments as fringe benefits, they

believe we would be doing the patients a service by discontinuing the medical benefits entirely as then the patient would know that he has no coverage, and the doctor would be free to bill the patient without confusion.

This would seem a dubious solution, but it does bring out a good point. Namely, that if any plan is to succeed, it must include medical benefits as well as surgical and obstetrical. Unfortunately, medical benefits do not adapt themselves as readily to payment as do surgical and obstetrical benefits. The patient either had a baby, or she didn't — he either had his appendix out, or he didn't. Medical conditions and the resultant fees do not follow as set a pattern.

At Rockland in June 1955, your committee was instructed to bring in an alternate Blue Shield Plan with higher premiums and greater benefits. How much we can increase physicians' payments and still have the premiums low enough to sell the policy is our major problem.

The inequities which appear to exist between the fees of the surgeon and the internist are not the result of any insurance company, although perhaps they may be compounded by them. While relative fee values have been determined for both surgical and medical procedures, no one yet, as far as we know, has had the courage to attempt to relate the one to the other.

In all fairness, it should be pointed out that somewhere along the line in Blue Shield plans with expanded benefits, we must draw the line. The commercial companies feel that we are in direct competition with them. This is so because of the aforementioned background. They feel that we have an advantage in being tax free, non-profit organizations. This is true. They ask, should the medical profession be the self-styled champions of free enterprise for themselves alone, or shouldn't we include the insurance companies? This is a good point. However, as long as they continue to skim off the cream in the field and leave us to insure the low income, and therefore, poorer risks, we must have some of the cream to actuarially balance the scales. Just where the dividing line is to be, we are not prepared to say, but we should recognize that a problem exists.

Troubles?

The following clipping and *comment* came 'Across the Desk' recently:

Town Again Shops for Doctor

SYMSONIA, KY., Mar. 30 (AP) — Symsonia, whose quest for a doctor brought it wide publicity, is in the market for another one. The town, which had been without a doctor, built a clinic, equipped a rent-free office and opened the door to any qualified physician.

Dr. Fred J. Cecil, who accepted the offer in July, announced yesterday he had moved his practice to Horse Cave, Ky. "I often sat all day long waiting for a patient or two," he said, declaring the people treated him like a "penicillin doctor." "For something real serious they would go to Paducah."

Everybody has troubles, I guess.

Jim A

STATE OF MAINE

Department of Health and Welfare

Dean Fisher, M.D., Commissioner
State House, Augusta, Maine

Poliomyelitis in Maine

MARGARET H. OAKES*

Poliomyelitis as a communicable disease problem in Maine seems to have been first officially recognized less than fifty years ago. Although a severe outbreak occurred in Vermont in 1894, no mention of the disease appears in the Annual Reports of the Maine Board of Health until 1909. That year's Report carried a page of questions from physicians who had been growing concerned about the disease, and answers which emphasized the fact that "the general opinion of the medical profession has not been that acute poliomyelitis is infectious" but that "in the light of the recent work it would be safe to call (it) a dangerous and infectious disease." This "recent work" must have been that of Landsteiner and Popper, who in 1909 identified the infectious agent of poliomyelitis as a virus.

Once the infectiousness of polio had been accepted as a fact, the Board of Health in 1910 issued Rules and Regulations, made poliomyelitis reportable and published figures on polio deaths. The 35 deaths from poliomyelitis recorded in 1910 would indicate a very large outbreak that year, and it is known that cases occurred in 84 towns, but no attempt was made at investigation. Between 1910 and 1916 a few uninvestigated cases and deaths were recorded each year. In 1916 came an outbreak so severe that poliomyelitis became temporarily of major importance. Only 141 cases were actually recorded but many others must have gone unreported. It is interesting to note that a few nonparalytic cases were recognized in that year. Reporting improved somewhat thereafter and in the thirteen years 1917-29, 494 cases and 123 deaths were reported, although records were still very incomplete.

A new era began in 1930 when 174 reported cases and 29 deaths occurred, many of them in Portland, where the case rate was 97 per 100,000. York County also was particularly hard hit. The unusual severity of the outbreak and its concentration in an important vacation area, led the Governor and Council to appoint the

late Dr. Mortimer Warren of Portland as Commissioner of Infantile Paralysis Control.

Through Doctor Warren's efforts and those of the State Department of Health, supplies of serum from recovered cases were obtained from the Harvard Infantile Paralysis Commission for administration to early acute cases in the hope of preventing paralysis. A consultant service was set up to assist physicians in diagnosis and in administration of the convalescent serum, and for the first time epidemiological investigation of cases became routine and all cases were recorded as paralytic or nonparalytic.

A special grant for poliomyelitis control, made by the Governor and Council in 1930, was continued for several years. Through this grant two respirators were purchased, and a program of blood collection from recovered cases was established in 1931. This program ceased in 1936 when the supplying of convalescent serum was abandoned.

In the 26 years, 1930-55, there have been reported in Maine 2,542 cases of poliomyelitis, 1,740 (68.4%) being paralytic, 751 (29.6%) nonparalytic and 51 (2.0%) "information incomplete." There have been 181 fatal cases (7.1%).

The last three years have been especially important in our poliomyelitis history — partly because they averaged the relatively large number of 216 cases a year, but chiefly because during these years prophylaxis against paralytic polio has been undertaken for the first time. There have been a series of campaigns, participated in by the National Foundation for Infantile Paralysis, State and local health workers and physicians.

The first was the 1953 gamma globulin program, in which the efficacy of globulin among household contacts of polio cases was evaluated. The National Foundation has since continued to supply globulin without charge for use among polio contacts, and in 1955 donated 15,393 cc which was used by Maine physicians for contacts of 116 cases.

In 1954 the program for evaluating Salk poliomyelitis vaccine was carried on, in the two Test Areas of Port-

*Assistant to the Director, Division of Communicable Disease Control.

land — South Portland — Westbrook and Bangor — Brewer — Old Town — Orono — Veazie. These areas were chosen because their population, previous poliomyelitis incidence and local health department facilities rendered them most suitable for the tests. Of 9,466 children in the three first grades in these two areas, 3,354 participated. In all, 1,706 second grade children received two inoculations with vaccine and those in the first and third grades acted as observed controls. Blood specimens in the number of 258 were taken from a sampling of participating children in all three grades. The year 1955 brought the program which attempted to inoculate all first and second graders with Salk vaccine. Maine shared with the entire country the early difficulties which surrounded the program, but by the end of October, 1955 when the National Foundation's share of the activity was terminated, 20,281 children, out of 49,410 eligible, had received one inoculation and 16,895 had received two. This latter figure is about one-third of the total first and second graders eligible.

In November, 1955 the Federally-financed, State-administered program of distributing the vaccine for children five through fourteen years old was begun, slowly at first to permit most of the available vaccine to go into commercial channels for use by physicians among their private patients. As the share of each release of vaccine taken by the State for free clinics has been increased, more and more immunization clinics have been set up in the schools. The vaccine has been, and continues to be, in extremely short supply and many towns are still waiting for their clinics. Through February 34,896 children had had one inoculation in school clinics and 9,744 had received the second. In addition an estimated 7,000 first inoculations and 6,000 second inoculations had been administered by private physicians to children in the 5-14 year group.

There are about 170,000 children in the 5-14 year group in Maine and the estimated total number of these receiving at least one shot since immunization first began in 1955 is approximately 62,000 (36.5%). Reports indicate that an additional 6,000 in the 0-4 and 15-19 year age groups have received inoculations from their private physicians. Besides these immunizations, Federally-financed vaccine has been supplied to physicians for 76 pregnant women.

As an outgrowth of the Cutter vaccine incident, the U. S. Public Health Service and the State Departments of Health have cooperated in a study of poliomyelitis among children who received Salk vaccine. Among our 203 cases reported in 1955 and five more reported in January 1956 who had onset before, or very shortly after, January 1, there have been six who had had at least one dose of vaccine. Five were in the 5-9 year age group and one was four years old. The median

period of time elapsing between first inoculation and onset was three and one-half months, the longest period being five months and the shortest, one day. This last case has been omitted from calculations of the 5-9 year group as not significant.

The following table shows the vaccinated and non-vaccinated cases and rates per 100,000 population in the 5-9 year group:

	<i>Est. Pop.</i> 5-9	<i>Paralytic</i>		<i>Nonparalytic</i>		<i>Total</i>	
		<i>No.</i>	<i>Rate</i>	<i>No.</i>	<i>Rate</i>	<i>No.</i>	<i>Rate</i>
Vaccinated	25,000	2	8	2	8	4	16
Non-vaccinated	67,000	27	40	22	33	49	73
Total	92,000	29	32	24	26	53	58

The 203 cases in 1955 occurred by age groups as follows:

<i>Age Groups</i>	<i>Total Cases</i>	<i>Paralytic Cases</i>	<i>Fatal Cases</i>
0- 4	38	30	
5- 9	50	26	
10-14	22	12	
15-19	29	20	1
20-24	21	10	3
25-29	25	11	1
30-39	8	5	
40-49	9	5	1
50 plus	0		
Age unknown	1	1	
(Adult)			
Total	203	120	6

Epidemiological information is available on 193 of the 203 cases. Of these 193, 22 had a history of suspicious illness among family or close contacts not long before their onset. There were several groups of cases. An outbreak among dependents at Loring Base in Limestone consisted of six cases living on the Base and four living in Caribou. Four of the six at the Base were closely associated and two of the fathers of these four came down with polio outside the United States at the same time that their children were ill at Limestone. The Caribou four consisted of three siblings and a contact. Another group of five cases occurred at Wells High School, three of whom were on the basketball team. In addition, there were three family groups of three cases, three family groups of two cases and four groups of two or three non-related contacts.

Five women were pregnant at the time of onset — three developed paralytic polio and two, nonparalytic.

Six cases had a history of operation or injection within a month before onset but the figure is too small to be significant.

SUMMARY

Poliomyelitis in Maine from the time of its first official recognition has been discussed, with an account of preventive activities carried on in the last three years and brief epidemiological information concerning the 1955 poliomyelitis outbreak in Maine.

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County Society Notes

FRANKLIN

THE DOCTOR HAS HIS DAY

At 12:01 the day begins.
Asleep, he hasn't any sins
Except the one of snoring loud—
The gusty whine of galeblown shroud.

At one a.m. the durned phone rings;
A distant voice bad tidings brings.
Half asleep he leaves his bed
Hair disheveled, eyes rimmed red.

Ten icy miles he drives like H - - -
To find his man already well.
"Sorry, Doc, I'm all right now,
But while you're here, please check my cow."

Again at four he hears that phone
Awaking with a heartfelt groan
He hears the voice of duty call
From second floor of the hospital.

"Doctor, Doctor, do not linger!
I haven't got a well-trained finger,
But I think your patient's ready
And it's got me all unsteady."

Three hours later he's still up
Drinking coffee by the cup,
Waiting for the babe to come
By now he wishes it were rum.

At last the cord he cuts and ties,
"A lovely child" he cheerfully lies,
Then hurries as the clock strikes eight
Lest for the O.R. he be late.

At ten he rubs his aching back,
And feels like he's been on the rack.
With glassy stare and sagging stance
Doffs mask and gloves as in a trance.

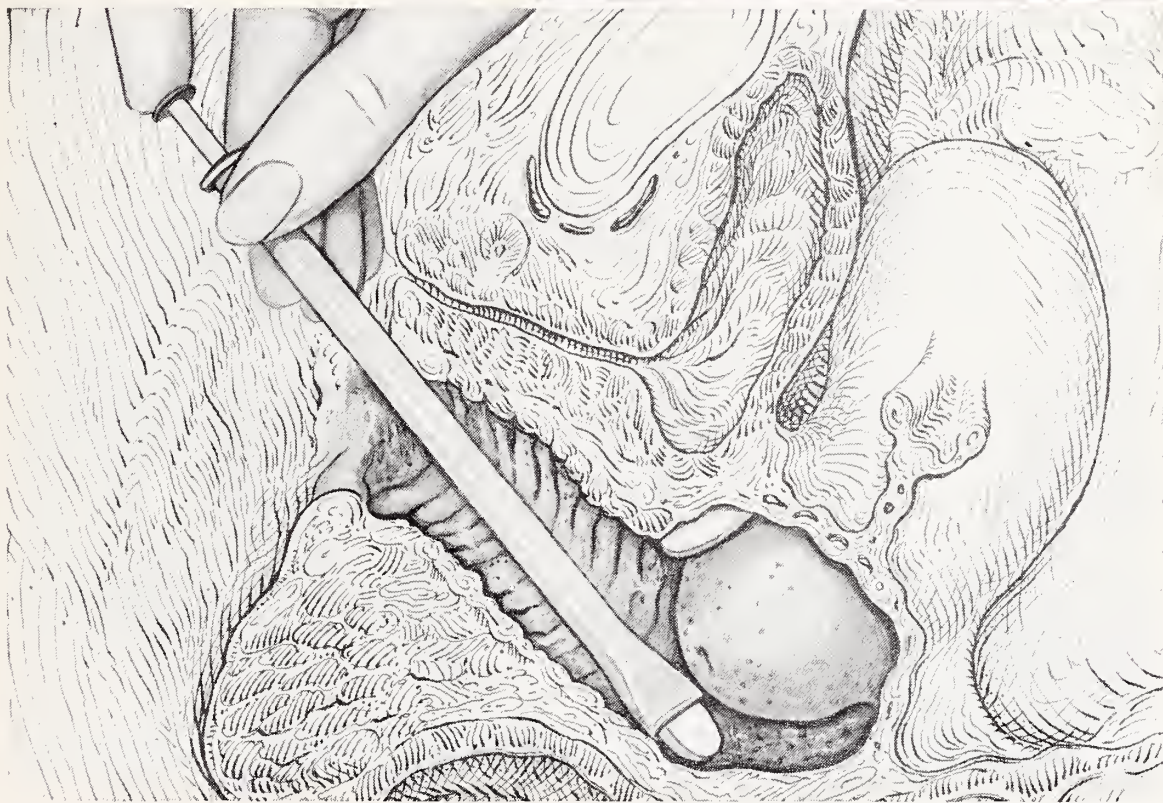
Refreshed by shave and nice clean shirt
"I feel just fine" he does assert.
And he begins his morning rounds
Mumbling sympathetic sounds.

"Doctor, when can I go home again?"
In every room rings that refrain.
"Not yet; we'll see" he says and smiles
"It takes a while to cure the piles."

At noon he's off with bag in car
With calls to make but they're not far
Yet there he is behind the wheel
While wife at home burns up the meal.

Office hours are one to five.
The place is buzzing like a hive
With Doc as busy as a bee
There are so many he must see.

Continued on page 123

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warm water) may be taken as often as desired for hygienic purposes.

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New Floraquin Applicator and commercial package of 50 Floraquin tablets available on request to . . .

SEARLE

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Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

The Tuberculin Test

By Floyd M. Feldmann, M.D., Medical Director, National Tuberculosis Association, NTA Bulletin, October, 1955.

The time has come for a closer look at the tuberculin test as an aid to tuberculosis control and eventual eradication. What can it do and what are its limitations? Should every community have a testing program? Unfortunately, simple answers to such questions cannot be provided from the information now available. Those who attempt the best use of this tool must study their own problems in the light of the known facts and must follow this with studies of the results obtained by practical experience. This may sound formidable but will not be too difficult if consideration is given to some guiding principles.

The tuberculin test properly done is one of the most specific and reliable tests known to medicine. With few exceptions, persons who harbor live tubercle bacilli in their bodies will have an easily demonstrable skin sensitivity to the unique proteins produced by these organisms.

This fact makes it possible to identify actual or potential victims of the disease. The test does not reveal the location of the infection in the body, its extent, its activity, or when it might become a threat to health.

Nevertheless, the tuberculin test is widely used for three major purposes. First of all, it is used for diagnosis. When a person has suggestive findings, a negative test is good evidence that tuberculosis is not responsible for the illness. If the test is still negative when repeated after 30 days, tuberculosis can be ruled out. A positive test is not so conclusive because many people harbor tubercle bacilli in their bodies without symptoms and without significant harm to their health. However, a positive test is of great value in arriving at a diagnosis if it is known to have become positive recently, and even single positive tests are significant in young children and in population groups where infection rates are low.

Secondly, the test is used for information on the status of tuberculosis control efforts. Over a period of years, the tuberculin test will provide reliable measures of new infections taking place and therefore indirectly, of the number of active open cases of tuberculosis not under treatment. The epidemiological information obtained is useful in determining which population groups need attention.

Thirdly, the test is used to screen out those individuals who have been infected. This use of the tuberculin test as a first step in finding hidden cases of the disease is at once simple and complicated. Its efficient utilization depends on many factors.

For screening purposes in case finding the intradermal test (Mantoux) is preferred. For technical details see the 1955 edition of "Diagnostic Standards and Classification of Tuberculosis," published by the National Tuberculosis Association.

Under some circumstances "patch" tests may be preferred. In this country the "Vollmer" patch test is commercially available and has been most commonly employed. The appearance of a reaction to the patch test is different from that resulting from an intradermal test so the reader must be experienced in making interpretations.

In general the patch test is regarded as being less sensitive than the intradermal test, and to be less satisfactory for testing individuals over the age of 12. If the intradermal test is to be used, a standardized preparation of P.P.D. is preferred. However, O.T. is still being used by many with satisfactory

results. The cost per dose is extremely small for either one.

The advantages of intradermal testing are: 1. With good technique few reactors will be missed. 2. The dosage and depth of administration can be accurately controlled. 3. Within 72 hours, the test can be read with precision and may be measured. 4. The test cannot be removed accidentally or tampered with. 5. It is inexpensive.

The disadvantages are: 1. Some people have an aversion to the use of a needle (a good preliminary education program will ensure close to 100 per cent participation in most communities). 2. Special and sterile equipment is necessary. 3. Tuberculin solutions do not maintain potency more than a few days. 4. The test can be given only by trained personnel, usually physicians.

The favorable aspects of patch tests are as follows: 1. No needle is used. 2. No special equipment or sterilization is necessary. 3. The prepared patches remain potent for several months without refrigeration. 4. Under supervision the patches may be applied by volunteers.

Unfortunately, there are also some unfavorable aspects: 1. The patch test is not as sensitive as the intradermal test and some reactors will be missed. 2. The dose of tuberculin cannot be controlled and a few severe reactions occur as well as false negatives. 3. The interval between test and reading is longer than that of the intradermal test. 4. The patch test is more difficult to read than the intradermal test. 5. Precise measurements of the reactions are impossible. 6. The patches frequently become detached either from tampering or by accident. 7. The patch test is more expensive per individual tested.

Those who are planning the program must decide which groups in the population should be tested. Theoretically if one is to discover all infected individuals, everyone in the community should be tested, and in some less populous areas this has been attempted. No one has had the temerity to try it in large cities, however. A sampling of various groups in the population may be practical and valuable if done with expert statistical guidance. Communities vary tremendously and no one formula will fit all communities. It is important that a program to determine infection levels and trends in a community include adults as well as children. Current testing programs so frequently neglect the adult population from which come the bulk of tuberculosis cases.

A testing program limited to school children will give some indication of the amount of active tuberculosis in a community. Again the ideal would be to test all children every year. If all children cannot be tested every year, expert opinion seems to favor annual testing of children entering school, a grade midway, such as the sixth, seventh or eighth, and those about to leave school (usually twelfth graders). This will give some information on infection rates and will provide some basis for case finding among the contacts of new reactors.

The school testing program offers an opportunity to tuberculin test all teachers, bus drivers, food handlers, custodial and maintenance employees who are in close contact with the children. Although the percentage of active cases in these adults will be small, there are many reports of sharp epidemics of tuberculosis in schools traceable to a teacher or other employee with unsuspected active disease.

Examination of all older children and adults by X-ray without a preliminary skin test is simpler and will reveal conditions other than tuberculosis but provides no basis for epidemiological follow-up. It would be preferable to give tuberculin tests and chest X-rays to everyone in this older group.

Editor's Note: This is the first of two abstracts on the tuberculin test. The second will be the May issue of Tuberculosis Abstracts.

*Vol. XXIX, April, 1956, No. 4.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

County Society Notes

Continued from page 120

THE DOCTOR HAS HIS DAY

At five o'clock he's still in there
Enthroned upon his swivel chair;
Sustained, tho' weary, by his role
Of making poor sick people whole.

"Doctor, I've an awful pain—
It started back the year Aunt Jane
Fell off the wagon on her head—
Or was it Cousin Jill instead?"

"It hurts me here so I could shout!
Do you suppose that I'm too stout?
Or do you think my blood is bad—
You know, the thing that Tilda had?"

And so it goes on by the hour
Until at last, just slightly sour
He bids the last of them good-nite
And sits down late to have a bite.

The Day's not over yet, my friend,
There still are cases to attend
Before you get your well-earned rest
Stretched out, asprawl, on Simmons' Best.

But while you have a minute, Doc
Take a quick look at calendar-clock
Then fill your lungs and shout HURRAY
For it's March 30th — DOCTOR'S DAY!

— H. G. B. —

*With the compliments of the Woman's Auxiliary to the Franklin County Medical Society who greet you on DOCTOR'S DAY!

HANCOCK

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine on March 14, 1956. There were seven members present. The meeting was opened by the secretary. The minutes of the last meeting were read and approved. Dr. R. E. Weymouth spoke briefly on matters pertaining to the Council of the State Association.

The speaker of the evening was Richard G. Adams, D.D.S., of Ellsworth, who gave an interesting talk on "Common Mouth Diseases."

ARTHUR M. JOOST, JR., M.D., *Secretary*

LINCOLN-SAGADAHOC

A regular monthly meeting of the Lincoln-Sagadahoc County Medical Society was held March 20, 1956, at the Ledges Inn, Wiscasset, Maine. There were thirteen members and guests present.

The meeting was called to order by Joseph Smith, M.D., President. The minutes of the February meeting were read and accepted.

The meeting was turned over to James Patterson, M.D., of the New England Center Hospital who gave an illustrated lecture on "Drug Reactions."

EVERETT D. SCHUBERT, M.D., *Secretary*

YORK

The Bi-Monthly meeting of the York County Medical Society was held at the Nurses Home of the Henrietta Goodall Hospital on March 14, 1956. Liquid refreshments and hors d'oeuvres were followed by a very excellent dinner served Cafe Style.

Leland S. McKittrick, M.D., Clinical Professor in Surgery at Harvard Medical School gave a talk on "Indications for Operation for Gall Bladder or Common Duct" with lantern slides. A question and answer period followed which was most instructive.

CHARLES W. KINGHORN, M.D., *Secretary*

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Letters to the Editor

March 21, 1956

Editor of the Maine Medical Journal,

In my twenty-one years as a member of the Cumberland County Medical Society, I have never seen a more complete illustration of domination without a two sided discussion than I witnessed the other evening — last Thursday night — when some forty or fifty members were persuaded to vote to increase the fees of the Maine State Society to fifty-five dollars a month.

Certainly forty or fifty members present should not be permitted to decide any question for the one hundred and fifty members of the Society and surely not so important a question as paying fifty-five dollars a year for dues.

Such matters should be decided by two thirds majority of the actual membership. As I did on the Social Security for M.D.'s question, I advocate that we have a poll of the entire membership. On it I would like to see the suggestion that the present dues be reduced. Only when the rank and file membership is consulted and has a vote can any increase in dues — which the rank and file must pay — be acceptable to the nine hundred plus members in the Maine Medical Society.

EDITOR'S NOTE:

The vote of the Cumberland County Medical Society was to raise the Maine Medical Association dues to *at least* fifty-five dollars per year.

The following is from the By-Laws of the Maine Medical Association, Chapter VIII, Section 1. "The annual dues and assessments shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association."

Many Maine doctors feel that we haven't gotten our moneys' worth ever since a few decided for the rest of us that we needed a Secretary to do our thinking for us and make our decisions. This form of dictatorship can be obviated by *having more of our decisions come from the ground up rather than the top down*. Let us show that we do employ the tenets of democratic procedure by letting the entire membership vote on this important matter. After all, it is the rank and file membership who have to pay the dues. The decision should be made by no less than two thirds of the entire membership if our dues are to be increased.

From time immemorable, New Englanders have not believed in taxation without representation, or in letting a few make the decisions for the rank and file. We believe in Liberty and Justice for *all*.

Last week I wrote original letters to 40 U. S. Senators on Social Security for M.D.'s. Today the replies are beginning to come in and the following is one of them.

Senator Sparkman, as all doctors know, was the Vice Presidential candidate on the Democratic ticket in the last nationwide election. One of the ablest of Senators, many Maine doctors feel that he far outrates the man that President Eisenhower has picked — Mr. Nixon.

Senator Sparkman says in his reply of March 16 to my letter asking that the M.D.s be included in this bill granting Social Security to professional men, which was passed by the House of Representatives by a good majority and which will be voted on soon by the U. S. Senate. "Personally, I think

"Neohydrin...
offers the striking
advantage of
a high degree of
therapeutic
effectiveness upon
oral administration."*

*Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, ed. 3, Baltimore, The Williams and Wilkins Company, 1954, p. 998.

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that the members of the medical profession should be entitled to coverage. The only reason they are not is because of the opposition of the Medical Association. *I am told, however, that a lot of the medical men feel just as you do.* If this is true, I am sure that Congress will gladly extend coverage to doctors if there is sufficient indication that the rank and file

members of the medical profession do want coverage. . . .” Will you please publish this, as written, in the next issue of the Maine Medical Journal?

Sincerely,
Adrian H. Scolten, M.D.
PORTLAND, MAINE

Notices

**Eighth Annual
Medical Alumni Day
of the
Maine General Hospital Medical Center
May 11, 1956.
Preliminary Announcement**

This post graduate medical educational program is offered for the benefit of staff members and former internes and house officers of the Maine General Hospital and for other practicing physicians throughout the State of Maine who are interested in the program and work at the medical center hospitals.

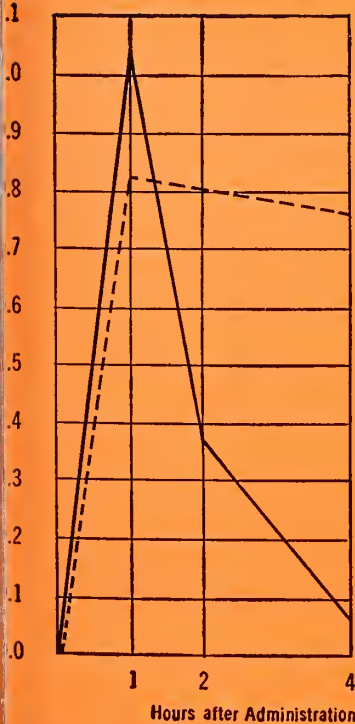
Morning Session

9 - 10 a.m.	Surgical Conference and Grand Rounds Alida Leese Classroom
10 - 11 a.m.	Medical Conference and Grand Rounds Alida Leese Classroom
11 - 12 a.m.	Pediatric Conference and Grand Rounds Alida Leese Classroom

Luncheon

2 - 4 p.m.	<i>Afternoon Clinical Session</i> Alida Leese Classroom
2 - 2:30 p.m.	"Skin Manifestations of Systemic Diseases" Harvey B. Ansell, M.D.
2:30 - 3 p.m.	"Electrophoresis in a General Hospital" Joseph E. Porter, M.D.
	"The Significance of Fat Stains in the Lung" Thomas D. Trainer, M.D.
3 - 3:30 p.m.	"Problems in Radiological Diagnosis" John F. Gibbons, M.D.
	Irving L. Selva, Jr., M.D.
3:30 - 4 p.m.	"Failure to Gain in Infancy" Philip G. Good, M.D.
4 p.m.	TOUR of the new Maine Medical Center
7 p.m.	Dinner Hospital Dining Room
	Speaker — Dr. Frank Berry Assistant Secretary of Defense in charge of Medicine (Dr. Berry's subject will be announced at a later date.)

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Fourth International Congress on Diseases of the Chest

American College of Chest Physicians
Cologne, Germany, August 19-23, 1956

The Fourth International Congress on Diseases of the Chest of the American College of Chest Physicians will be held in Cologne, Germany, from August 19 to August 23, 1956 under the patronage of the Federal Chancellor Dr. Konrad Adenauer. The first Congress after the war was held in Rome in 1950, the next one in Rio de Janeiro in 1952 and the third one in Barcelona in 1954. 86 countries will send their representatives.

Prof. Dr. med. Dr.h.c. Gerhard Domagk will be the President, Prof. Dr. med. Dr.h.c. H. W. Knipping the Vice-President, Prof. Dr. med. J. Jacobi the General Secretary and Prof. Dr. med. J. Hein the Chairman of the Executive-Committee of the Fourth International Congress.

The main subjects which will be discussed at the Congress, deal with the problems of coronary diseases (diagnosis, pathophysiology and surgery), industrial diseases of the chest, tuberculosis, lung and heart function and tumors of the mediastinum. Several outstanding foreign and German scientists and clinicians will present papers on these subjects. This year's Congress will be held with special reference to surgery of coronary diseases. But presentations on any other subject in the field of diseases of the chest will also be accepted. The presentations will be followed by free discussions. The official languages for the Congress are: English, French, Spanish and German.

As for more detailed information and inscription, please write

to the secretariat of the Congress: Fourth International Congress of the American College of Chest Physicians, Köln-Deutz, Germany, Messeplatz.

Applications for scientific presentations will only be accepted prior to April 30, 1956.

Courses at The Children's Hospital of Philadelphia

The following short courses will be conducted at The Children's Hospital of Philadelphia in May and June 1956.

1. PEDIATRIC ADVANCES FOR PEDIATRICIANS AND GENERAL PRACTITIONERS. May 28 through June 1, 1956. A Refresher Course conducted by the Staff of the Children's Hospital of Philadelphia, in collaboration with the Department of Pediatrics of the University of Pennsylvania and the Camden Municipal Hospital. Tuition — \$100.00.
2. PRACTICAL PEDIATRIC HEMATOLOGY. June 4, 5 and 6. Conducted by Dr. Irving J. Wolman and other members of the Hematology Department of the Children's Hospital, under the auspices of the Graduate School of Medicine, University of Pennsylvania. Tuition—\$60.00.
3. BLOOD GROUP INCOMPATIBILITIES AND ERYTHROBLASTOSIS FETALIS. June 7 and 8. Conducted by Dr. Thomas R. Boggs, Jr. of the Philadelphia Serum Exchange of the Children's Hospital of Philadelphia, under the auspices of the Graduate School of Medicine, University of Pennsylvania. Tuition—\$50.00.

For information write to Irving J. Wolman, M.D., Children's Hospital of Philadelphia, 1740 Bainbridge Street, Philadelphia 46.

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Medicine And The Legionnaire^{*}

DAVID B. ALLMAN, M.D.
Atlantic City, New Jersey

Commander Collins, Distinguished Guests,
My Fellow Legionnaires:

It is a double pleasure for me to have the opportunity of addressing this National Convention of The American Legion.

As a physician and a member of the Board of Trustees of the American Medical Association, it is my privilege to bring to you an official message of greeting and good will from the members of the medical profession of our country.

As a member of The American Legion and a Past Commander of Legion Post No. 283 of Atlantic City, I am happy to be here with you — my fellow Legionnaires — renewing old friendships and, I hope, making new ones.

In this two-fold identity, I would like today to point out briefly some of the areas of agreement that already exist between the members of The American Legion and the members of the American Medical profession, and to indicate other areas of probably future agreement, in which positive, constructive attainments can be worked out for the benefit of all our countrymen.

Last November, in the McAllister Hotel in this city, National Commander Seaborn P. Collins addressed the house of delegates of the American Medical Association

with the same general purpose. He made a sincere, statesmanslike presentation, which was not only well received but greatly appreciated by all who heard him and, indeed, by all members of the medical profession.

As a result of a suggestion made by Commander Collins at that time both the Legion and the American Medical Association appointed liaison committees in the interest of promoting fuller understanding and harmony between our two great organizations. Three joint meetings have been held so far this year. On some points, tentative agreements have been reached, and we are, with good promise, exploring the possibilities for wider and firmer concord. Regardless of the ultimate outcome of these discussions, the important feature is that they have been conducted in an atmosphere of reason, mutual respect, and friendliness.

As Commander Collins pointed out in his address last November: "If our two groups approach the subject of medical care for veterans in this sincere, honest, and reasonable fashion, I believe that we can resolve our differences, or at least achieve an understanding of each other's position, which will permit us to continue to collaborate and cooperate in those fields where we do agree."

We of the American Medical Association warmly welcome both the spirit and the practical wisdom of

^{*}Presented to The American Legion 37th Annual National Convention, Miami, Florida, October 12, 1955

such an approach, based on the technique of calm, factual discussions. We sincerely commend and compliment The American Legion on the distinguished leadership which for the past year it has enjoyed. And we so earnestly hope that the spirit and the methods fostered by Commander Collins will continue for many years to come.

Such a spirit on the part of both organizations is vitally necessary, not only to our own good relations but also to our capacity for making effective, optimum joint efforts in promoting national welfare. Regardless of any differences which may develop over particular programs or issues, as agencies dedicated to the common good, we should be big enough to cooperate in all things in which love of country and love of our fellowman dictate that we *should* cooperate. This cooperation is incumbent upon us not only in matters of health and medical care, but in the whole range of considerations which relate to the betterment of our country, and of our way of life, and to its preservation against the aggressions of hostile philosophies and alien and subversive political doctrines.

Of late, except for the problem of worldwide communist aggression, probably nothing has more engrossingly engaged our attention and our energies than the problem of mental illness. Proof of this fact is found in the day-by-day increase in discussion of all factors which relate to the conquest of mental illness and the achievement of mental health. Educational, religious, professional, civic, and social forums concern themselves with this matter. No subject is more frequently dealt with in the press, and on TV and radio programs.

The nation is mobilizing for concerted action in this field. During the first session of the 84th Congress, for example, two major bills were introduced to cope with mental illness, which many outstanding authorities have labelled "the nation's Number One health problem." One of those bills, known as the "Mental Health Study Act of 1955" — actively supported both by the American Medical Association and The American Legion's National Rehabilitation Commission — was passed by Congress. Now Public Law, it calls for an intensive three-year survey which is to be "an objective, thorough and nationwide analysis and re-evaluation of the human and economic problems of mental illness."

The other Bill, which was not acted upon at the last session of Congress, would provide for a five-year program of special grants-in-aid to the states to achieve the extension of services in the field of mental health. Your National Rehabilitation Commission recommended support of this Bill. The American Medical Association approved of its general principles and objectives, recommending, however, that its enactment should await completion of the national mental health survey, so that the program funds could be assigned with maximum efficiency and best results.

The survey work is scheduled to begin the latter part of this year or early in 1956. I am sure that The American Legion — in consequence of its interest in the mental health of veterans, and of its recognition of the problem currently facing the nation — can do much to assist in this study. Furthermore, the survey will point the way not only for increased activities by national, state, and local governments, but also for intensified efforts by voluntary groups, families, and individuals. As across the nation we mobilize for action in the field of mental health, assuredly the Legion and the American Medical Association will find countless ways to work together, at all levels, in pursuit of common goals.

That leads me to a related but somewhat broader subject. It is my understanding that Dr. Leonard G. Rowntree, Vice-Chairman of the Medical Advisory Board of the Legion's Rehabilitation Commission, has outlined a long-range Legion plan for the betterment of the physical, mental, and moral health of the nation. That plan, I believe, was scheduled for committee discussion just prior to the opening of this convention.

Should the Legion develop such a program, either in whole or in part, this will likewise constitute a splendid opportunity for close cooperation with the American Medical Association. The essence of Dr. Rowntree's plan, as I understand it, is to promote close liaison among parents, teachers, doctors, and clergymen. The broad purpose would be to improve the physical and mental health of our children and of our youth, to detect and correct deficiencies as early as possible, and thus to reduce the nationwide toll of juvenile delinquency and crime. Certainly these are worthy objectives which we can with unanimity endorse!

As a matter of fact, The American Legion and the American Medical Association already have been working together for many years in the field of maternal and child health. Dr. Garland D. Murphy, Jr., of El Dorado, Arkansas, who is a vice-chairman of the Child Welfare Commission of the Legion, is also the representative of the Legion on the committee on maternal and child care of the American Medical Association's council on medical service. This committee, with the help of all other interested groups, collects and compiles information concerning the health and medical care of mothers and children. Among other things, it has sponsored a series of special studies of the medical problems encountered by the wives of servicemen. This field of maternal and child health is another in which we can and should continue to strive together for the benefit of all the people.

The same conclusion holds in the field of vocational guidance. The American Legion conducts a professional guidance program in which the American Medical Association cooperates by supplying information about career opportunities in medicine. This work will become increasingly important in the years ahead. With

the nation's medical schools now engaged in the greatest expansion program in their history, it already is becoming evident that a shortage of qualified applicants for medical school will be a problem in the near future. Closer, expanded cooperation between us will help to solve that problem and will assure the American people of a continuing, adequate supply of well-trained physicians.

The Bricker Amendment constitutes another instance of a national issue involving Congressional action concerning which The American Legion and the American Medical Association share a common point of view. Both The American Legion and the American Medical Association have repeatedly affirmed support of the principles and purposes embodied in this proposal. The Bricker Amendment seeks to protect the nation and the several states from the imposition of unwanted and unworthy legislation enacted in consequence of treaties or executive agreements made with foreign countries. It is very likely that the Bricker Amendment will again come before the Senate during the next session of Congress. As defenders of our country's liberties and its democratic processes, both The American Legion and the American Medical Association will undoubtedly continue to stand together in the fight for the adoption of the amendment.

In addition to specific issues or programs — a few of which I have mentioned — there is a still broader sphere of mutual interest. It stems not from resolutions passed or committees appointed by either The American Legion or the American Medical Association, but it arises from the substance and spirit of the two groups — their history, their traditions, and their philosophies. I refer, of course, to our common devotion to traditional American ideals and principles, our common faith in the American way of life, and our distaste for any philosophy, doctrine, or political system that would impugn or impair the concepts which are fundamental to and responsible for the growth and greatness of our nation.

That is why The American Legion was one of American medicine's first and staunchest allies in the campaign against national compulsory health insurance. That is why the American Medical Association has contributed annually for the past five years to the support of the Legion's anti-communism program. The American Medical Association likewise has a high regard for the efforts of The American Legion to develop a positive understanding of Americanism through education for freedom town meetings, which, I understand, happily are spreading to Legion departments from coast to coast. On our part, we are constantly urging physicians to take a more active role in community affairs, to take a greater interest in public issues, and, in short, to acquaint themselves to the full of the duties and responsibilities of citizenship.

In the broad arena of public affairs The American

Legion and the American Medical Association have a patriotic responsibility not only to cooperate with one another, but also to provide leadership for others with the same viewpoint. As Dr. Elmer Hess, President of the American Medical Association, told our house of delegates last June in Atlantic City: "All of us, in all social and economic levels of American life, should join together in an out-spoken protest against creeping socialism. We should speak out — clearly, constantly, and courageously — for individual freedom and for the fundamental principles of our democracy, both political and economic."

One last item for your attention . . . near the end of the recent session of Congress, the House of Representatives rushed through a Bill known as the Social Security Amendments of 1955. No public hearings were held on this measure, and it was passed under a House rule barring amendments and limiting debate. All sections of this Bill demand careful study, but one section is especially disturbing. This particular section would make permanently and totally disabled persons eligible to receive their Social Security benefits at the age of fifty instead of at sixty-five.

In the medical profession we are concerned over this proposal because it would impose government control over the examination and treatment of such disabled persons. It would have an adverse effect on existing rehabilitation programs, including those of the Veterans Administration, and — most important of all — it would be a direct step toward the social planners' dream of a cradle-to-grave Social Security system, eventually including full-scale socialized medicine.

This bill is scheduled for consideration again during the next session of Congress. Full public hearings before the Senate Finance Committee have been promised. More and more groups and individuals are becoming seriously concerned over the implications of our entire Social Security system — what it promises, what it can fulfill, and in what direction it is leading us. There is an imperative need for careful, factual study of the whole subject, in all its aspects and ramifications. I urge you of The American Legion to join in supporting a nationwide movement for a full re-appraisal of the Social Security system before further commitments are made.

As an epitome of the spirit we share, I know of no better statement than that made by Commander Collins to the house of delegates of the American Medical Association last November:

"Through the groups we represent, we both seek the betterment of America. In short, we are citizens first, and doctors and veterans second."

Let that be our credo and our cause. Let us be true to that credo, and we shall be true to our country, to one another, and to ourselves. Thus we shall prosper, preserving and attaining the best of health, of body and of spirit, for America and for all Americans.

Acute Cholecystitis

L. R. CHAREST, M.D.*

The purpose of this paper is to discuss the diagnosis, treatment and prevention of acute cholecystitis which comprises about twenty per cent of all gallbladder diseases. It occurs in females three times more frequently than in males, although gallbladder disease is five times more prevalent in the female. Age is no barrier as shown by the youngest age twelve and the oldest one hundred and one. About ten per cent under thirty years; sixty per cent between thirty and sixty years; and thirty per cent above sixty years. It is in the latter group that one meets more difficulties, especially when there is some concurrent debilitating disease. Surgical mortality rate is about five per cent in those over fifty years of age; one per cent in those below fifty; and varies with the severity.

The cause of acute cholecystitis is an obstructive stone at the cystic duct. In eighty to ninety-five per cent of these cases, stones are also found in the gallbladder. The initial process is a vascular obstruction, first lymphatic and venous, and later arterial. Bacterial invasion occurring a few days later, plays a secondary role. However, anaerobic bacteria may produce severe lesions in thirty-six to forty-eight hours, depending on: the degree of obstruction and ischaemia, the virulence of the organism and the resistance of the patient. In acute cholecystitis, without stones, the cause may be a reflux of pancreatic fluid. Typhoid fever is at times complicated by acute cholecystitis, but this is an unusual complication of an infectious disease. In children, however, the cause is more apt to be bacterial inflammation (Pneumococcus; B-coli; Salmonella group) unaccompanied by stones. For this reason the acute condition in the child will more often subside without surgery.

Although the pathology is apt to be a state of flux, classification into the following four types is useful. (1) The catarrhal form is manifested by edema and congestion, with a minimum of inflammatory exudate. (2) In the suppurative form, inflammation results in the destruction of the mucosa and the content becomes purulent. (3) The gangrenous gallbladder surface may be grey, green or black and there are deep perforating ulcerations. (4) The hemorrhagic form is not common and may be due to erosion of mucosal vessels at an ulcer, an aneurysm at the orifice, or an epithelioma.

In the diagnosis of the acute gallbladder, the history may elicit evidence of: selective dyspepsia, aftermeal fullness and eructation, previous pregnancies with

cholesterol deposit, history of typhoid and previous right upper quadrant colic. Seventy-three per cent have had previous gallbladder disease. One must remember that the actual pathology may be way out of proportion to the present clinical picture. The pathological lesions are not always manifested by specific symptoms. Pain, a symptom, may be referred anywhere along a nerve, but tenderness, a sign, remains over the pathology. The effect upon the general health of an edematous or even suppurative lesion varies according to the age, condition and physical resistance of the subject. The subjective symptoms of pain and nausea vary with the psychic condition of the patient.

The acute gallbladder may be mild, moderate, or severe. It generally begins with rapidly progressive pain, colicky at first, then becoming steady in the right upper quadrant. Pain may radiate to the epigastrium, or to the right lateral thorax. Extension of pain to the right lower quadrant may be confusing, but tenderness and spasms remain in the right upper quadrant and epigastrium. In the mild and moderate cases, fever may go to 101° and 102°, since there is no submucosa. This is associated with an increasing pulse rate, anorexia, nausea, repeated vomiting without relief, and chills. Slight jaundice, present in twenty per cent of the cases, is important and may be hepatocellular or obstructive, resulting from multiple biliary calculi. Palpation will show varying degrees of spasm and acute tenderness. It may be possible to feel a smooth, enlarged gallbladder as forty-three per cent have a palpable gallbladder on admission. If large enough, one may even see a local swelling of the abdominal wall pushed up by the distended organ. In the severe case, one expects all symptoms and signs to increase rapidly to marked distress and even prostration, yet the clinical picture may lag behind the racing pathology.

It is extremely important to render a differential diagnosis. Ninety-five per cent of the diagnostic errors, in acute cholecystitis, occur in the following six conditions: (1) In appendicitis, the pain is lower and the temperature is not so high. The patient is younger and may not have a history of stones. More often the laboratory data will be in proportion to the pathology. (2) Acute hemorrhage pancreatitis, more rapidly progresses to an intense state, repeated vomiting, greyish cyanosis and vascular collapse. Pain radiating through to the back is aggravated by lying on the back. The serum amylase will be much elevated, to eight hundred or even up to fifteen hundred units. However, one must remember that acute pancreatitis may be associat-

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ed with acute cholecystitis. (3) Perforated peptic ulcer begins with sudden epigastric pain, which may have extended to the right lower quadrant. The patient prefers to lie still, doubled up and may or may not vomit. There may be a history of ulcer. (4) Biliary colic, may at first be mistaken for acute cholecystitis but the temperature is normal and there is no spasm as a rule. The patient moves about and relief is quickly obtained with antispasmodics. (5) Renal colic, usually can be identified by the course of pain, from the loin down along the direction of the ureter. Red blood cells, found in the urine, help to confirm the diagnosis. (6) Coronary thrombosis, may be confusing because of pain in the epigastrium and the frequent statement that it feels like indigestion, similar but stronger than previous attacks. Tenderness, however, will be in the right upper quadrant. An electrocardiogram will often help clinch the diagnosis.

The approach should be systematic and thorough, without undue delay. Adequate treatment must be based on accurate diagnosis. A complete history and abdominal examination can be done rapidly and should always precede the administration of a sedative, unless the patient is in severe distress and will not cooperate. In the latter, a quick examination of the abdomen, for future comparison, is done before giving sedation. When the patient becomes quiet, the history and physical can be accomplished. The practice, by some, of giving a strong sedative and then calling in a consultant (who will see the patient in a most unfavorable condition for proper evaluation), should be discouraged.

Basic laboratory tests should include: cbc., blood type; N. P. N.; urinalysis; EKG. A flat film of the abdomen may be useful. Serum amylase is indicated if doubt exists about the pancreas. Prothrombin value should be done if jaundice is present. Other examinations may be indicated by the basic tests or other information. The practice of running a whole series of tests is time consuming, expensive to the patient and does not contribute much more to the pertinent diagnostic information. In the presence of a palpable gallbladder, it is useless to attempt cholecystogram, as non-visualization is the rule.

The course of this disease varies. Mild and moderate cases frequently subside gradually in two, eight or fourteen days, and at times even without specific treatment. However, some will go on to a more severe state and complications. The writer has observed an acute gallbladder proceed in its pathological course to gangrene and perforation, in the presence of subsiding and minimal signs and symptoms, including temperature below 101° , and a practically normal blood count. The early, severe, acute form is a far more dangerous condition. Although it can be brought under control at times, by vigorous means, the incidence of serious and even fatal complications is high. It is not the purpose of this paper to discuss each complication but merely to mention the more important ones. Among

them are: (1) Associated ascending cholangitis, (2) Empyema (14%), (3) Ileus, (4) Internal biliary fistula, (5) Gallstone ileus, (6) Perforation into the liver with hepatic abscess, (7) Subhepatic abscess, (8) Sub-phrenic abscess, (9) Perforation into a large vessel with fatal hemorrhage, (10) Free perforation with fatal peritonitis. The incidence of gangrene is twenty-four per cent and that of perforation, ten per cent. This impressive list effectively points out the high cost in morbidity, suffering and loss of life, which may result from a neglected gallbladder.

Having made the diagnosis, the decision of what to do and when to do it, must be based on considerable evaluation and sound surgical judgment. Acute cholecystitis occurs more frequently in the older age group, where the general health and reserve may be already impaired by other diseases. It may occur with or during acute respiratory disease, thus increasing the anesthetic risk. It may be a primary attack or may have preceded by one or more attacks, each leaving the biliary tract and liver in a further impaired state. Other diseases of much importance, although undiagnosed as yet, may be present, such as diabetes.

The rapidity and intensity of local pathology with its various results on the general physical and mental status of the individual may cause marked apprehension, emotional disturbance, severe dehydration, electrolyte disturbance, rapid pulse, low blood pressure and vascular collapse. Logically, steps to correct these disturbances should be taken as soon as possible, even during the diagnostic phase, assuming that the patient has already been admitted to the hospital or will be without delay.

FIRST: Sedation is best controlled with Demerol in sufficient quantity for the relief of pain. The time interval is determined by closer observation and the return of pain. With severe apprehension and emotional disturbance the addition of Sodium Nembutal I.M., will increase the amount of Demerol needed. Morphine should not be used, because it increases the tone of the sphincter of Oddi, except to combat shock due to pain.

SECOND: 5% Glucose in saline and 5% Glucose in water should be given I.V., in quantity and frequency sufficient to restore water and electrolyte balance and to produce a minimum of 1,500 cc. of urine in 24 hours. Whole blood and oxygen may be indicated.

THIRD: Put the pancreas and the biliary tract at rest. Allow nothing by mouth. Use parenteral fluids in the minimum amount of 3,000 cc. plus the amount removed by suction per 24 hours, with few exceptions. Remove gastric juice by continuous suction. Inhibit pancreatic secretion further by giving proanthine 15 mg. I.M., every 6 hours.

FOURTH: Record temperature and respiration every four hours, and the pulse rate every hour. It is a more reliable indication of how things are going. Ob-

serve frequently, because an acute gallbladder patient is not the kind to be seen once a day only. It is wise to use parenteral vitamins having a high value of vitamin-C, and it is essential to start vitamin-K, 20 to 75 mg. daily, right away in patients with jaundice. Antibiotics should be started as soon as possible.

Once dehydration and electrolyte disturbances are corrected and while observation continues, one might be guided by additional factors in deciding what to do next. Under the above regimen, pain frequently subsides, in the mild cases within a few hours. However, pain also subsides with extensive gangrene.

The initial pathology is vascular on the basis of obstruction and stasis. But in a few days there is a secondary bacterial invasion and so the time elapsed since onset is very important.

A mild case may go on to be moderate or severe. But under the above conservative regimen, most of the mild, some of the moderate and a few of the severe forms will gradually subside. They can then undergo surgery at an elective time. One should remember that it takes a minimum of six weeks for the edema to subside.

The ideal time to operate is when the acute reaction has subsided and the general condition has improved. There is less bleeding, but dense adhesions may distort the normal anatomy. This type of patient is faced with prolonged hospitalization, extended convalescence and loss of work time, which when added up becomes quite expensive. Following this, he can look forward to renewed hospitalization, surgery and lost time, again a striking expense. Further, some of these cases will fail to return as advised and are likely to return later, with another acute phase as bad or worse than the previous attack plus some new or aggravated old debilitating condition.

During the early observation period, the decision to operate should be guided by the following five points: One: if the pain remains colic in type, it means obstruction and may go on to gangrene more rapidly. Two: a younger person shows less tendency to endure than an older individual. Three: if there have been previous attacks, the tissue of the gallbladder is already in poor condition. Four: time elapsed since onset?

The ideal time to operate is within 24 hours, but the surgeon does not often see these patients in the first 24 hours. Again it is to be remembered that the early phase is vascular and that several days after onset a secondary bacterial invasion takes place. Also cleavage planes are more easily found in early edema. Patients operated upon even in the first week do better than those done in the second or third week. Five: is the patient getting better or getting worse? Here experience and surgical judgment are very important, especially so because the laboratory is not too reliable, and the extent of pathology may at times be way out of proportion to the appearance of the patient. If the

pulse rate goes up 20 beats in one hour and keeps climbing, surgery should be done without delay.

In the writer's opinion, any acute gallbladder seen in the early phase, that is within 72 hours, should be operated unless there exists other strong contraindications to surgery at the time. In so doing, complications will be prevented, morbidity will be reduced as well as hospitalization and expense, and earlier return to better health. Those cases seen later, especially after the first week, are better handled conservatively for later elective surgery, unless a complication forces emergency surgery, which then at best is unsatisfactory.

Now having decided to operate, these patients, who frequently are not good risks, should without delay be prepared to the peak of their capacity and then handled gently.

Anesthesia must provide good relaxation in keeping with safety to the patient. A satisfactory result can be obtained from endotracheal G.O.E., or spinal supplemented with pentothal, or pentothal and curare, each having its proper indications. Local anesthesia is satisfactory in the very ill, poor risk patient, for performing cholecystostomy.

The procedure of choice is cholecystectomy (87%) accompanied by choledochostomy where indicated, for about 11.5 per cent of these patients have stones in the common duct. Cholecystostomy (12%) is still a very useful procedure and has saved many lives in poor risk patients who could not stand a more extensive operation. The incision should be one that rapidly provides ample exposure and can be sutured in a minimum of time. During exploration of the abdomen, particular attention is paid to the size, surface and consistency of the pancreas. After freeing the gallbladder of all adhesions and isolating the area with packs, good exposure of this oozing field must be maintained throughout by judicious use of sponges and suction. The best way to prevent accidents is to see and correctly identify the anatomy of the area. Nothing should be clamped, tied or cut on an assumption of identity.

Aspiration of the gallbladder usually helps in manipulation and increases visibility in depth. Sliding the end of a sponge through the foramen of Winslow is a quick aid in orienting and prevents injury to the vena cava. Exploration of the common duct, when indicated, usually done before removing the gallbladder, may not be possible until removal of the bulky, thick, juicy gallbladder. Dissection of the gallbladder from below is less bloody. The cystic artery must be clearly exposed by blunt dissection and secured. The three limbs of the Y-junction of the cystic and common ducts can and must be clearly exposed by blunt and sharp dissection and only then may the cystic duct be ligated close to the common duct and cut. If dissection seems too difficult from below, it may be easier from above. But this usually means more bleeding in the field. If dissection from above seems too difficult, one can be assured that

from below will court serious accidents and disaster. If one should find himself in such a situation, sound judgment would indicate simple drainage through cholecystostomy for the time and a definite procedure later. Exploration of the common duct should always be done through the supra-duodenal portion. Mobilization of the duodenum and head of the pancreas will permit a much more satisfactory palpation of the common duct, with a large dilator in situ. The T-tube and penrose drain are best led out along Morisson's pouch and out through a stab-wound near the end of the 12th rib. In the closure, stay sutures are advised. Postoperatively

antibiotics are used until the patient is afebrile. Suction is discontinued when peristalsis returns. Early ambulation is advocated with few exceptions.

SUMMARY

In summary, the causes of, differential diagnosis of, course and treatment of acute cholecystitis have been presented. Definitive surgery in the early stages wherever possible, is the best means for an early return to health and avoidance of complications. Prevention of acute cholecystitis can be attained in the majority of cases by cholecystectomy at times associated with choledochostomy, when calculous biliary disease is first diagnosed.

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Undulant Fever

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Undulant Fever is a forgotten disease in most of our large cities where milk pasteurization has all but wiped out this previously common pathological condition. However, in these same cities as well as in the rural areas where milk is not processed, it is prudent to bear in mind that this disease still prevails.

Workers in milk plants, dairy herd handlers, the butcher who handles uncooked meat, the stevedore who carries carcasses, the occasional sportsman who goes to the country for a short period of time, as well as habitual drinkers of unpasteurized milk, should be looked upon with suspicion as regards a possible positive agglutination when unexplained disease presents itself. And, a mother who aborts without apparent reason should be checked for Malta Fever, as should the transfused patient.

It is now known that this disease is not confined to the bovine group as regards cause but that swine, goats and fowl are also carriers.

In rural work we have noted that these patients do not always give a positive blood, even in the early stages but that the history is definite pertaining to the handling of infected meat or the ingestion of infected milk from a "Bangs Herd." The symptoms are to be found in any medical text-book, yet we often do not bear them in mind when we have an un-

accountable fever, lassitude or hypotension for which we cannot present a cause. We are more apt to dismiss these people with a diagnosis of "flu" or neurosis with an accompanying exhaustive state.

The State of Maine has done excellent work in keeping this disease at a minimum, yet it still exists in spite of the slaughter of all known Bangs infected herds, as it does in other States of the Union. According to the "American Agriculturist" (June 4, 1955) only three States, i.e., Maine, New Hampshire and North Carolina are "Modified Certified Brucellosis free" but under the new accelerated program more cows will be tested throughout the nation and more cows slaughtered if found positive. New methods have been developed recently where not only blood agglutination of cows, goats, etc., but also detection of the disease can be made by milk (raw) examination so that today it is a fast vanishing condition among cattle and goats. It is doubtful, however, if the disease will ever be stamped out entirely and one should always be on the alert regarding it whether in Maine or any one of the other 47 States.

In this day of antibiotics, care of the condition is simplified if general measures of health improvement are exercised.

Routinely we have performed agglutination tests on 200 suspected cases whose histories indicated exposure and possible exposure and 200 routine cases of the chronic and acute forms. All unaccountable abortions have been tested for this condition. Butchers and meat handlers were tested who were known to have handled Bangs infected meat. The results were not startling but sufficient to call attention to the fact that the disease is still in progress. Arthritics were in a high percentage of positives. No case was considered positive in the low dilutions.

This Study was prompted by a patient; a city resident and hunter, who detested milk but who was induced to drink one glass of raw milk while on a hunting expedition. The end result was a complete picture of the salient symptoms of undulant fever and positive agglutination tests in all dilutions.

By this report we do not imply that all cows' milk is infected when in the raw form or that hunting or fishing in Maine or any other state is dangerous.

Syphilis has in the past been called the great menace but Brucellosis is likewise a great masquerader when one considers polyarthritis, gastro intestinal upsets, skin eruptions, genito-urinary lesions and respiratory path-

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ology. We further forget that there is a chronic as well as an acute type.

Results have been listed by this study as follows:

1. Meat handlers group 14% positives.
2. Unaccountable abortions 2% positive.
3. 14% of all cases taken at random in a 200 series — positive.
4. 40% of suspected cases chosen from history — positive.

CONCLUSION

Undulant fever is still a common ailment, often recognizable by a good history alone. It resembles lues in its bizarre masque and is found in a large percentage of meat handlers as well as milk drinkers. It is assumed from this study that unaccountable abortions occur from this disease as they do in other animals and that arthritics have a high percentage of positives.

Rural Practice

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Rural practice does and always will differ from that of our colleagues in the city. It is quite true that we derive much from our urban brothers but they in turn, if so minded, can profit by our experiences.

The American College of Surgeons and Hospital Accreditation Boards have done much to elevate the standards of all hospitals and, for the most part, it is greatly appreciated by all concerned.

Ironically while visiting a large teaching institution recently, I could not help but smile as our group was issued caps, gowns and masks — questioned about nylon and friction producing clothing, then ushered into the operating room where a brilliant surgeon performed a meticulous operation with a large blow fan over his shoulder, aiming at the patient's abdomen. The fan, of course, was for the doctor's convenience but made me wonder why, with the preparation of the patient, the added precautions that seemed so perfect — the one flaw, a fan, should be exhibited in such a manner. Sterility seemed to be a passing gesture with this break in the chain of a planned program. The next thought that raced through my mind was the remembrance of an experience about fifteen years ago of performing an emergency Caesarian section under a chandelier with thousands of tiny flies dropping off the heated lights into the abdomen; the end result being no infection plus complete recovery of mother and baby. The panorama continued with the recollection of a time when I had no sutures in my bag and they were needed badly as well as quickly — and of using horse hair sutures obtained from the tail of "Old Jerry," boiled (in a farmhouse) and supplemented by tetanus antitoxin; the farmer's wife readily supplying a usable needle. Still dreaming and recalling the many appendectomies, tonsillectomies and herniorrhaphies that we performed on a kitchen table, not too long ago with a morbidity and mortality rate that would astound and overjoy the average hospital today. Confinements were

and still are delivered in the home — when difficult, we often have the prospective daddy "pouring ether" while we truss up the patient with a none too sterile sheet from the bed. A lamp is burning brightly close by and we do not ask grandmother, who rustles about, if she has nylon "undies" on. Seriously, we believe in sterility and the irradiation of fire hazards but when they are not possible, we improvise accordingly, much the same as they did in the last two wars, not always under the best conditions or with antibiotics to help us sleep better nights.

Today, for the most part, we make every effort possible to get these people to a hospital — one that is well supervised and has facilities that are acceptable, presentable and safe. The large teaching hospital aforementioned did not provide air conditioning for the surgeon so he used a fan, hoping perhaps that antibiotics would render any contamination harmless or that the friction produced by the fan would not precipitate an explosion. The flies that dropped in my patient's belly were not, certainly, of my own efforts. At least they were partially cooked by the hot lights above.

This article is not meant to criticize any hospital or group of hospitals but is written merely to call attention to the many ways a rural hospital can and does improvise and to review the fact that "all that glitters is not gold." Ben Ames Williams, shortly before his death, told me that he was compiling a story of our rural institution which he hoped to present to the Saturday Evening Post for publication. He was to call it a "Hospital on a Shoestring." Had Mr. Williams lived, I am sure it would have been far more interesting than my meager offering.

It is a long story as to how our institution started. It has had its ups and downs, its sweat and tears but for the most part, it has been a community project coupled with a bit of Yankee ingenuity. It will suffice to say that it has improved from a single bed farmhouse

which was used for maternity cases, and for an occasional operative case that could not be moved too many miles, to a 75-bed approved institution. In its infancy, we cut wood and sold it along with milk to provide money to keep the wolf away.

We improvised from the beginning, and down through the years each physician, director, nurse and co-worker has contributed. Thousands of dollars have been saved for expansion and facilities by applying the thoughtful suggestions of our personnel. We consider no ideas infantile or unworthy of consideration.

How do we improvise? First, we treat everybody who works in the institution as an equal. Meetings are held at least monthly for each group, where gripes are aired and ideas correlated. Everyone who is employed is versatile, that is, useful in more than one endeavor. For instance, we have one who is especially proficient in interior decorating as well as nursing, a seamstress nurse, an anesthetist nurse, maintenance men who excel in painting and woodworking. Technicians who substitute as nurses aides if needed, office employees who are interested in social service, one who is a notary public. We prefer married men and women because of their stability and home ties. A further aim is to keep our workers proud and happy — to feel that they are all a part of the hospital. However, all realize they are dispensable and all positions occupied have an alternate who can take over the job, so that a vacation or rest may be available.

Several years ago a local telephone company changed their call boards. They were induced to give the hospital these instruments in lieu of destroying them. It was not long before we had a patient to nurse push button call system.

Beautiful murals were painted in the children's ward by an art teacher who, by coincidence, was a member of our auxiliary. Each picture represents a nursery rhyme that we teach our children — hence, these are educational as well as a form of entertainment. This appeal to fantasy, we feel, helps the child face reality with a lighter burden.

Baby cribs were converted into drying racks for X-ray film by merely making notches in the top and placing a drain board beneath. An upright chest plate holder was made from two pipes and a plywood case. This looks and works well, yet has saved us many American Dollars.

A mortician was about to junk his ambulance and wheel type stretcher. We managed to talk him out of the latter (for free) and by placing several small pieces of pipe thereon, raised the stretcher to bed level thus saving a goodly sum for other purposes.

Tube stands, nursing racks and bassinets were made of wood by our help. Pipe extensions between beds have made a non-costly semi-private ward when curtains were hung so that they could be opened or closed at will.

A mattress chute was planned and made by our help to send patients to safety in event of fire.

It has been our good fortune to live in an era when our public schools are undergoing revolutionary changes for the better. The days of the old slate blackboard are going or gone. When modern progress judged green boards were superior to the old fashioned slate boards, we were privileged to salvage a few large perfect slates, one of which we framed ourselves at a very low cost and placed on wheels for use in purposes of demonstration to our nursing and active medical staff. Slate was further used for stepping stones and to line the laboratory sink.

Various antique lamps have been converted into bedside lighting fixtures. Shelves, tables and chairs have been constructed. Stuffed chairs were rejuvenated and covered.

A discarded X-ray tank, which was scheduled for the dump by one of our doctors, was converted into a usable tank which houses frogs that respond to pregnant urine in such a way that diagnosis is simplified. An antique, well-working refrigerator was converted into a usable blood bank and has saved many lives in our community. A so-called "dumb waiter" was constructed from discarded parts, and time and effort is saved in transporting food, linen and other items up the several stories. A Coca Cola tank (discarded) was adapted as a milk storage cooler, thus relieving other refrigeration problems. A blow fan which was obsolete in a physician's home heating system was reversed and used to give our corridors a change of air.

In the operating room, a prized tool not illustrated in the average surgical supply book is the ordinary dessert, table and teaspoon — these to us are more useful than a ribbon retractor. Good results have been achieved with a ribbon (cloth) tie in intestinal work, replacing costly instruments of a standard nature.

A "walker" was constructed by merely joining iron pipes, placing casters below, a seat for the patient (wood) and a pair of arm rests salvaged from cut down crutches.

Community organizations were solicited for man hours. Painting inside the hospital was done at a low cost and on a large scale. Discarded gas burners were picked up and properly installed to provide floor-boiling privileges at a cost of little or nothing. A patients' library was provided almost overnight. First, book shelves made by our maintenance men and second, the salvage of classical and light reading material from the community.

A technician X-ray also relieves the local barber and dishes out a haircut or shave that would charm the patron of a Fifth Avenue Shop. Our linen for operating and delivery room, for the most part, is made by nurse-seamstress methods. Holiday decorations, Christmas trees and the like are provided locally by our group.

Food, too, is improvised but never limited. We give

our patients and personnel the best in quality and quantity. Farmers who have more vegetables or fruits than they require, donate the same for the harvesting. Our help willingly pick beans, peas, berries, apples and the like for hospital use. Kitchen employees preserve and store these foods for a later date. Game Wardens, through the graciousness of the State of Maine, contribute confiscated meat products. Our food costs are low!

Most of our help could average a greater salary elsewhere — why do they stay? I have searched many times for the answer, the same always bobs up. They love our hospital, our people in it, and are proud that they, along with the rest of us are a cog in a great wheel; versatile, ready and loyal.

When we hire a nurse or other employee, we first consider what else can they do, how else can they be useful? Can they speak French (for we are not far from our Canadian friends above the border who speak only French in some instances) or Italian or some other language. Do they think only for themselves and not others? Can they drive a car, fix a leak, are they extroverts, happy, healthy and jocular? Would they bring sunshine or gloom? A single interview answers this and determines the eligibility for work. Neurotic temperments are usually dispensed with unless we can help their peace of mind by giving them work; association and recognition which they might crave.

Shock blocks, curtains, overhead bed frames with pulley attachments, various traction apparatus, wheel carts for laundry, test tube racks, bannisters, fixtures of all sizes and shapes are dreamed up and converted into a reality by our group. We too, love chrome and plush but good clean wood, iron and rocks can serve well and are beautiful, at least, in our eyes. A bit of paint or stain will help as it is always serviceable and clean.

Many more pages could be written about our hospital, which is no longer so small, but this is not the time or the place. The history of how the pioneer settlers came to this town by ox cart and erected the farm dwelling that was later to serve this community as a hospital is another story which I feel inadequate to relate. However, the descendants of these people still abide in this area and carry on remarkably well. Some coming and some going, yet all eventually coming back, bearing out what a learned and esteemed clergyman recently told me, "I was born in Maine, raised in Maine, have come back here and expect some day to die and be buried in Maine."

In summary, may I say that we have found to our satisfaction and experimental success thus far, that help in any institution should be examined for what they can do — thus, bringing out their hidden inclinations. Secondly, they should be made a part of the institution and a notation of their handiwork with praise for the same, that they themselves feel they are a part of it. Thirdly, gold and chrome glitter and are beautiful but many of the aesthetic designations can be made without them, at a smaller cost. Fourthly, specialists in many forms of hospital work are not necessary. Talents can be developed that help make a happy community, institution, and hospital personnel. Finally, a hospital of our type never could be run as a business — it exists as a family. We take into consideration a person's background, problems, health and education. In short, we treat them as human individuals, letting them preserve their individuality and pool it with their fellow workers, all striving for one goal to improve and harmonize human relationship and surroundings.

Surgery Of Burns

PAUL R. BRIGGS, M.D. AND JULIO A. GOMEZ, M.D.*

The surgery of burns is much the same as that of the gall bladder in that the pendulum swings back and forth from cholecystostomy to cholecystectomy or from the open air method to the closed methods of treatment. Likewise, as in cholecystectomy, the open method or the combined methods are here to stay, now that we have a better knowledge of the end results. Again, in the case of burns, many of the poor results we have obtained in the past were due to poor technique, judgement or training. Grandmother treated burns in the old days, maybe not too scientifically but still she got fairly good results. She could also have treated many forms of gall bladder disease and not raised the havoc that the inexperienced would exhibit today. A burn, although not usually considered a major surgical maneuver, none the less requires good technique, a thorough knowledge of antibiotics and fluid equilibrium together with a general cognizance of the pathology and histology involved. There is no hard and fast rule to follow but many pit-falls are open to the man who doesn't heed the aberrations of others.

Since the beginning of time burns have been classified one way or another into three types, the 1st, erythemic; 2nd, vesicle; and 3rd destruction of the deeper formative structures.

When we consider thermal pathology we realize that the primary concern is the victim himself, in other words, "what will this do to my patient?" In a sense this is good judgement and one must reflect, for our thoughts above all others should be, how, in the shortest possible time, can we bring our patient out alive, with a good functioning body and with the least amount of pain and discomfort. We know that locally the burn can be handled but how about the systemic effect? Even a sun burn can give, as we all know, a severe and lasting residue.

First and second degree burns are little or no problem — grandmother could well have handled them unless 40% or more of the body was burned. If, however, the area of burned surface is large the prognosis is serious from the systemic point of view. We must think in terms of liver, kidneys, heart, brain damage and blood element destruction together with prophylactic treatment for the same. These so called 1st and 2nd degree burns have been often looked on in the past as a benign condition but have been found later to be of malignant nature. Formerly, we used lotions, sedatives and salves. Today we treat the organism as a whole.

At first we met with much the same results that we got when we stopped strapping multiple fractured ribs. Our patients didn't appreciate it whole-heartedly and sought other doctors who would put on soothing lotions and salves. However, when their temperatures became high, due for the most part to the prevention of radiation and evaporation by said salves, the patient or relatives became alarmed and again insisted on at least a consultation. Today the public is being educated and instructed, and is accepting the knowledge that a burn is secondary but that the systemic effect is primary.

At present it is our practice to give codeine or morphine for pain depending on the severity, fluids are encouraged orally and parentally with a record of intake and output making this up to 4000 cc for the adult at least in 24 hours. Oxygen is given if indicated, salt is restricted. The urine is watched for evidence of kidney damage bearing in mind that oliguria is the rule which may persist for 48 hours regardless of fluid intake and should cause no alarm. The N.P.N. usually elevates and should be watched closely. A hematocrit is done twice daily for 48 hours and for each point this is above 50 we give 100 cc of whole blood, not plasma, for we feel that the oxygen carrying power of the blood is utilized and it is more effective regardless of the hemoconcentration that apparently exists. The blood cells, blood sugar potassium and the protein are all apparently increased. The transfused blood seems to disregard this and the patient, in our experience, picks up more quickly than with plasma. The chlorides of the blood are usually found diminished, probably due to tissue edema and inflammatory reaction. However, when we use plasma, roughly 100 cc is given for each per cent of body surface burned. Antibiotics and tetanus antitoxin, toxoid or both are given when vesicle formation is in process. Cortisone was used by us several years ago in one severe second degree burn. The patient had an apparent feeling of well being which was followed by sudden death. Since that time we have discontinued the use of this drug in burn cases.

In regard to local treatment of the burn itself, it has been our experience to review local application of tannic acid, picric acid, cod liver oil ointments, gentian violet, pressure dressings and open air therapy. We have discontinued the first two because we have not found them applicable from the clinical standpoint. Although eschar was noted with tannic acid, the lesion became hard and black. Debridment was almost always the rule and recovery was prolonged much beyond

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other methods. Picric acid appeared to make the patient toxic and a similar hard area of dead tissue appeared over the burned area. Pressure dressings are rarely used by us in recent years but still have a place. Gentian violet (aqueous 2%) solution in sterile water is occasionally used on small areas to supplement the open air or combination methods. When it is possible we allow the air to circulate around the burned area and leave open all possible surfaces, noting that the parts that contact the air heal first with little pain, but when the patient has to lie on a burned area that part is well covered with vaseline gauze or cod liver oil ointment spread on huge gauze sponges. Likewise, when the skin, which was healed by exposure, is complete we usually reverse the patient and take off all ointments and salves thus using a combination therapy. Beds have been devised which allow circulation of air on all sides but are not necessarily required. Usually no skin grafting is needed in the second degree burn unless complications have made themselves manifest. Coolness and dryness aid in epithelization; heat from within or without crack the dry area and retard it. Again hyperpyrexia results when the burn is insulated by means of dressings, ointments and the like.

The third degree burn is rarely just a burn of the deep tissues. It is usually accompanied by the 1st and 2nd degree types. It has been, therefore, usual for us to treat third degree burns by the open air method whenever possible, especially if the area is large in size, realizing that bandaging does not allow radiation and evaporation. Toxic symptoms appear more frequently when the parts are covered. Here again our patient is the first concern, save him then treat the burn. In treating this type of trauma the open method at present seems to be working well if performed under near sterile conditions. The eschar is removed in approximately 3 weeks and the area beneath is one of granulation which requires little preparation for skin grafting. Burns of the genitals and buttocks usually do well with the open method but circular burns of the extremities seem to do better with the closed method. The former having a good blood supply, much the same as the face and neck, whereas the latter has a poor one. Motion in the extremities further causes the eschar to crack and invites infection. The moisture in vaseline or ointments allow a free motion but when a pressure dressing is used we usually splint the arm or leg in a functional position, starting movement as soon as possible and getting grafts placed in vital areas early to allow more freedom and mobility. In grafting areas which have clean surfaces we usually leave the area open, noting that the epithelium spreads much more quickly.

When a fracture is involved a debridement is carried out. The fracture approximated, the area is covered with sterile vaseline gauze and splints are applied, never circular plaster. Pulleys and weights are used where danger of contracture or fixation of joints is anticipated.



Fig. 1

Figure 1 shows a circular burn of the extremity — this should be treated by the closed method placing grafts in the localities vital for early mobility. Note the grafts in the popliteal fossa, pinch graft type.



Fig. 2



Fig. 3

Figures 2 and 3 show a 3rd degree burn of buttocks well granulated before and directly after grafting. Grafting here was split thickness type. Open air technique was used.



Fig. 4

Figure 4 shows a friction burn of the hand before grafting and before granulation. Grafting of this type of burn which involved bone, tendons and various deeper structures is done as early as possible to allow corrective procedures to be carried out at an early date.

Electrical burns seem for the most part to depend on the amperage and not the voltage. The greater the intensity the greater the burn. These have been found to be mean burns to treat especially when direct current is involved. Permanent generalized tissue damage seems less from the systemic standpoint but shock, myocardial conduction defects and respiratory paralysis are occasionally encountered. The average electrical burn seems to involve the skin superficially as an ordinary second degree burn or by more deeply charring and leaving thrombosed veins, which are occasionally palpable; these same veins seem to make drainage of the area more deficient.

As to the treatment of electrical burns — first again is the systemic. Artificial respiration for respiratory paralysis — digitalization (quick) for fibrillation and generalized shock treatment — the most important item we have found is oxygen — for 99% of these people exhibit cyanosis even though their cardio-respiratory system appears adequate. E.K.G. is always done. Debridement well outside the charred and reddened areas including the thrombosed veins has been successful in many cases. Areas that cannot be closed by first intention suture are grafted at the time of debridement after a meticulous hemostasis is carried out — flaps and types of graft depend on areas involved but the area is potentially clean and the skin grafts take well. Supportive antibiotics, tetanus antitoxin and toxoid are also given.

When the skeletal system is involved and bone or cartilage damaged, we follow with x-ray for a long time to determine the prognosis and treatment.

Salves and ointments are rarely used — then as a first aid or palliative treatment. Superficial burns respond much the same as other types to the open air method.

Contractures, in all types of severe burns, are prevented by early motion, open air technique, various pul-



Fig. 5

Figure 5 shows grafting and epithelization in a child approximately 9 years old; performed on child from mother. Both are type A RH positive. Child was 18 months old at time of burn and grafting (1948). Child is female.

ley weight appliances but never by a circular cast. Occasionally we have used dicumerol and heparin in the thrombotic type of burn which threatened or actually produced emboli.

Heterogenous grafts have been used by us on two occasions in mother and child; the grafts were procured from mother of same blood group and in both instances were a "take." Epithelium spread much the same as in autogenous grafts and was permanent. Autogenous skin grafts are employed whenever possible. Formerly we kept these moist with saline but at present we are getting better results by keeping the area cool and dry under near sterile conditions.

Recently much publicity has been afforded by the English press regarding virgin births assuming that proof of claims of virgin births would be established were the blood type of mother and child the same plus skin grafting which is a "take" from mother to child (Time magazine, Nov. 28, 1955 page 63). These so-called virgin births scientifically are supposed to be in the female sex only.

The claim was furthered that a child's cells differ from the mother's because they contain antigens of the father and a successful skin graft assures the birth to be virgin in nature.

The grafts we applied "took" and did not resemble homogenous grafts derived from cadavers in their lasting effect for cadaver grafts are temporary and there is no definite epithelization. These mothers certainly were not virgins nor did they claim to be.

It must be assumed therefore that the so-called virgin birth be attributed to a miracle and that there are no others on record or which could be scientifically claimed as such to date.

Friction burns are occasionally of a destructive nature. The method of handling may shorten the patients' length of disability, save the insurance company and

allow reconstructive measures to be carried out at an early date. If at all severe, this type of burn is not of a benign nature. It should be cleaned properly with saline under gravity pressure and debrided. Chlorine products such as Dakin's solution or chlorazine (Abbott) invite quick granulation. Contractures should not be allowed to take place — skin grafting should be done at an early date.

Finally in regard to burns of the eye (either thermal or chemical). These are always serious from the clinical standpoint and should ultimately be treated by an ophthalmologist. However, it was recently called to my attention that good results have been obtained in the use of Calsulphydryl, a relatively non-toxic compound. This drug evidently is an adjunct in the prevention of corneal scarring. In the chemical type of burn the usual precautions are taken to irrigate the eye with water and after local anesthesia, saline irrigations — then both thermal or chemical burns are treated alike, except that the thermal burn requires no irrigations. Hydrosulphosal Ophthalmis Oil (E. C. Lientz Co.) is instilled, followed by a mydriatic, the eye is bandaged and

the patient is referred to an Ophthalmologist. It is remarkable the amount of vision which is retained if this drug is used properly. Early use is imperative for a good result.

An interesting notation that might be passed along is our occasional contact with anti-mortem and post-mortem burns — most of those inflicted (of whatever type) before death leave an area of inflammatory reaction about the lesion whereas those produced after death do not exhibit this either macro or microscopically.

CONCLUSION

Our experience indicates that whenever possible the open air method of burn treatment should be employed in thermal accidents. Treatment of all burns depend on type of burn, causative factor, amount of surface involved, depth of penetration, condition of patient when he or she was burned, the amount of tissue damage, the locality and what one's own results have been in treating similar cases.

Heterogenous grafts are possible in near related people of same blood type.

Pownal State School Waiting List

A number of physicians have filed applications for commitment of patients to the Pownal State School. Because we have a long waiting list at Pownal State School it seems advisable to inform all practicing physicians in the State of Maine about the procedure for admission and the crowded situation at the Institution.

Applications for commitment should be obtained from the Institution. This form should be completed and returned. And, as soon as possible, the applicant will be asked to come to our bi-weekly Out-Patient Clinic for evaluation. Physical examination, psychological and educational tests will be given. A developmental history will be taken by one of our social workers. Where it would involve undue hardship for the applicant to come to Pownal State School, they are required to present an evaluation obtained from Dr. Simpson's Clinic, the Augusta State Hospital or Bangor State Hospital, or from a qualified psychiatrist. Once the eligibility is established, the applicant's name will be placed on our waiting list. If not eligible a report and recommendations will be mailed to the referring physician or to the patient's parents.

Based on the standards of the American Psychiatric Association our buildings are 162% overcrowded. At present there are no vacant beds. The enrollment is 1623 patients plus 12 patients coming in for commitment during the next few days. There are 125 names on the waiting list. Several hundred children, more recently committed, will require many years of care, training and treatment before they can be placed on trial visit in the community.

The number of severely retarded patients who require permanent care is increasing due to the low death rate in private as well as in institutional practice. (1.23% at Pownal State School during 1954-55.)

In view of these facts it becomes advisable to reconsider the need for commitment to Pownal State School. Severely retarded bed-patients can often be taken care of in the average nursing home. Mildly and moderately retarded children without behavior problems should be entered in special classes at the community level. As you know, we have now legal provisions to establish these classes. Kindly consider that your judgment is respected in the community and your support for special classes might help solve one of the educational problems, as well as help your patient. Long waiting lists exist all over the country. We shall have to use all resources to meet the need. If you have any questions about your patient please consult us.

The need for expansion based on present conditions and anticipated future developments will be presented to the 98th Legislature. Our legislators will have to decide how far we can go.

There will be Open House at Pownal State School, May 20, from 10:00 A.M. to 4:00 P.M. We wish to extend a cordial invitation to all physicians in the State of Maine to come for an inspection tour of our institution.

PETER W. BOWMAN, M.D., *Superintendent*
Pownal State School, Pownal, Maine

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Across The Desk

H.R. 7225

H.R. 7225 — The bill to bring more people under social security, to lower the retirement age and grant disability benefits to age fifty; has been effectively fought by all Doctors of Medicine. At present, the bill is before the Senate Finance Committee. Marion Folsom (Sec. HEW) and the administration are against it. Its chance of enactment is slim. Here is the way the Doctors of Maine voted:

1. Do you favor compulsory inclusion for Doctors of Medicine under social security if voluntary inclusion is not available under the law?	2. Do you favor AMA's stand against the Disability Benefits Amendments provided in H.R. 7225?
Yes 195 No 280	Yes 355 No 83

Billions for Health

In July 1955 — Senator Frederick G. Payne read into the record the following editorial from the Bangor Daily News — "How About One Billion for Health?"

"There are occasions when we feel Congress is too generous about spending the taxpayers' money. But today we'd like to point out an instance in which we think the Federal legislators are being downright niggardly. We refer to funds for medical research on major killing diseases. Congress hasn't yet decided on a final figure but the largest amount we have seen proposed is \$24 million.

"Why not \$1 billion? This may sound startling, at first. Yet what better investment could be made for the welfare of the Nation? Let us suppose the sum found the answer to dreaded cancer, for instance. Suppose it gave us new information on heart ailments and their treatment. Suppose it speeded up improvement of the Salk polio vaccine. Wouldn't research funds help the battle against cerebral palsy? Wouldn't it hasten the development of marvelous new atomic weapons for the war against disease?

"It occurs to us that we Americans may have lost our perspective as to the relative importance of things. A Federal highway program running into many billions undoubtedly will be put on the books within a short time. We are spending billions upon billions for national defense. Other billions have been poured over-

Continued on page 146

Program in Brief

Maine Medical Association

103rd ANNUAL SESSION

THE SAMOSET

Rockland, Maine

SUNDAY—MONDAY—TUESDAY

June 24, 25, 26, 1956



SCIENTIFIC COMMITTEE

FRANCIS H. SLEEPER, M.D., Augusta, *Chairman*

LLOYD BROWN, M.D., Bangor

EDWARD G. ASHERMAN, M.D., Portland

Maine Medical Association

Program-in-Brief — 1956 Annual Session

June 24, 25, 26, 1956

Sunday, June 24, 1956

- 9:00 A.M. Registration
Registration throughout the session will be at the Samoset. Hours to be announced.
- 10:00 A.M. Invocation
J. WALTER MCFARLANE, *Pastor*
St. Charles Church
Brunswick, Maine
First Meeting of the House of Delegates
ARMAND ALBERT, M.D., President-elect, presiding
- 12:30 P.M. Luncheon
- 2:00 P.M. Reference Committee meetings
- 6:30 P.M. Dinner
Speaker: MR. SAMUEL H. RAMSEY
Humorist and Inspirational Speaker
Subject: Human Relations Is Your Business

- 11:45 A.M. *Speaker:* PAUL D. WHITE, M.D.
Subject: The Ways of Life and Heart Disease
- 12:30 P.M. Luncheon
Round table discussions conducted by Dr. Meigs and Dr. White
- 2:00 P.M. Symposium on Rehabilitation
Presiding — EDWARD G. ASHERMAN, M.D., Portland
Moderator — HOWARD A. RUSK, M.D., Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York University — Bellevue Medical Center; Associate Editor, The New York Times
- 4:00 P.M. General Assembly
Election of President-elect
Introduction of Visiting Out-of-State Delegates
President, Maine Dental Society
President, Maine Pharmaceutical Association
Presentation of Honorary Pins

Monday, June 25, 1956

- 9:00 A.M. Invocation
RABBI DAVID BERANT
Congregation Beth Jacob, Lewiston, Maine
Second Meeting of the House of Delegates
ARMAND ALBERT, M.D., President-elect, presiding
- 11:00 A.M. Scientific Session
Presiding — LLOYD BROWN, M.D., Bangor
Speaker: JOSEPH B. MEIGS, M.D.
Clinical Professor of Gynecology, Harvard Medical School
Subject: The Things I Have Learned In Gynecological Practice

- 6:30 P.M. Cocktail Party — Annual Banquet
Speaker: MR. JAMES M. ROGERS
Assistant to the President of the Ingersoll Milling Machine Company, Rockford, Illinois
Subject: Two Ways to Slavery

Tuesday, June 26, 1956

- 9:00 A.M. County Secretaries Breakfast
- 10:00 A.M. Invocation
REVEREND E. ROY BURCHELL
Minister, First Congregational Church, Camden, Maine

- | | |
|---|---|
| <p>10:15 A.M. Scientific Session
 Presiding — FRANCIS H. SLEEPER, M.D.,
 Augusta
 <i>Speaker:</i> CURTISS B. HICKCOX, M.D.
 Associate Anesthesiologist, Hartford Hos-
 pital, Hartford, Connecticut
 <i>Subject:</i> Modern Concepts of Oxygen
 Therapy</p> <p>11:00 A.M. <i>Speaker:</i> LAUREN H. SMITH, M.D., Physi-
 cian-in-Charge and Administrator, Depart-
 ment of Nervous and Mental Diseases,
 Pennsylvania Hospital, Philadelphia, Penn-
 sylvania
 <i>Subject:</i> The Critical Evaluation of So-
 matic Therapy in Psychiatry</p> <p>11:45 A.M. <i>Speaker:</i> RICHARD D. BRASFIELD, M.D.,
 Surgeon
 Pack Medical Group, Memorial Hospital,
 New York, N. Y.
 <i>Subject:</i> Total Right Hepatic Lobectomy
 A film in sound and color</p> <p>12:30 P.M. Luncheon</p> <p>2:00 P.M. Maine Medico-Legal Society
 Remarks by President, JAMES B. PERKINS,
 Boothbay Harbor, Maine
 Lincoln County Attorney
 <i>Speaker:</i> ALAN R. MORITZ, M.D.
 Institute of Pathology
 Western Reserve School of Medicine,
 Cleveland, Ohio
 <i>Subject:</i> To be announced</p> | <p>2:00 P.M. Meetings of Specialty Groups</p> <p>Maine Chapter, American College of
 Surgeons</p> <p>Maine Society of Anesthesiologists
 <i>Speaker:</i> CURTISS B. HICKCOX, M.D.
 <i>Subject:</i> Problems in Clinical Anes-
 thesia</p> <p>Maine Cancer Society</p> <p>Maine Eye Group</p> <p>Maine Heart Association</p> <p>Maine Pediatric Society
 <i>Speaker:</i> SIDNEY S. GILLIS, M.D.
 <i>Subject:</i> Differential Diagnosis of Jaun-
 dice in Children</p> <p>Maine Radiological Society</p> <p>Maine Trauma Committee</p> <p>Maine Trudeau Society
 <i>Speaker:</i> JULIUS LANE WILSON, M.D.
 <i>Subject:</i> Pulmonary Emphysema, an
 Everyday Problem in Treatment</p> <p>6:30 P.M. Clam Bake</p> |
|---|---|

Special Notices

Council Meetings

The Council of the Maine Medical Association will meet on
 Saturday, June 23 at 8:00 p.m. and as announced.

Maine Medico-Legal Society

ANNUAL MEETING
 Tuesday, June 26, 1956 at 10:00 A.M.

Golf Tournament

FRANCIS A. WINCHENBACH, M.D., Bath, *Chairman*

PROGRAM IN BRIEF

Woman's Auxiliary to the Maine Medical Association

Eighth Annual Convention, June 24, 25, 26, 1956

The Samoset — Rockland, Maine

Registration

Registration on Sunday, June 24, and throughout the session will be at The Samoset. Information relative to social activities will be available at time of registration.

Sunday, June 24, 1956

5:00 to 6:00 P.M. — Cocktail hour for auxiliary members and husbands.

Monday, June 25, 1956

A day for relaxation — boating, golfing, tennis, swimming, or whatever your heart desires.

Tuesday, June 26, 1956

10:00 A.M. — Executive Board Meeting

10:30 A.M. — Annual Meeting

1:00 P.M. — Annual Luncheon

Speaker: MRS. ERWIN TRACY, National Chairman Public Relations Committee

Evening Programs

See the Maine Medical Association Program on preceding pages.

Across The Desk

Continued from page 146

seas in the form of foreign aid. Yet we discuss medical research in terms of only millions.

"The suggestion of allotting 1 billion Federal dollars for vital medical research is in nowise linked to the philosophy of socialized medicine. The latter is something we oppose. We suggest the research funds be distributed as grants to appropriate college and medical research laboratories. The project should be carefully organized, just as our generals and admirals would plan war against an aggressor.

"It need be no more socialism than was the Government's spectacular success in developing atomic energy. This was a wartime emergency and the immediate goal was to make atomic bombs but it spelled the dawn of the atomic age — an age which we hope will be peaceful and prosperous. The Federal atomic know-how is now being gradually passed along to private enterprise for peaceful use of atomic energy.

"We startled and frightened the world with the atomic bomb. Would we not win the gratitude of the world if by a billion-dollar-research program, we were able to give the human race the answers to the diseases that kill and cripple?

"We'd like to see the billion-for-medical-research idea catch on in Washington. If you like the idea let Presi-

dent Eisenhower and the Maine delegation in Congress know how you feel. Write direct or care of Bangor Daily News, Bangor."

This, we assume, refers to S. 849 — a bill that would authorize the appropriation of \$30 million annually for the next three years for grants-in-aid for the construction of non-Federal medicine research facilities. Grants would be on a matching funds basis and would be administered by the Surgeons General USPHS and would be available to universities, hospitals, schools of medicine, dentistry, osteopathy and optometry.

\$30 million is not enough, but no matter what the amount — it should not be sprayed like a new coat of paint on all the disciplines and over all universities and hospitals.

The basic idea of our Government suggesting constructive and continuing effort in the field of medical research is a good one. But why not concentrate and coordinate the entire effort under one discipline — medicine.

It has been successfully demonstrated that Doctors of Medicine and their brothers in the allied sciences are the ones best suited to do this difficult and important task. Louis Pasteur said it best "In the realm of discovery, chance favors the mind that is prepared."

Osteopathy Continues Its Gains On Capitol Hill

Upon recommendation of its Armed Services Committee, Senate probably will pass a bill (HR 483) authorizing commissioning of doctors of osteopathy in Army, Navy and Air Force Medical Corps. Then, before bill goes to White House for signature, House must concur in amendments made by Senate but there is no reason to suspect it will not go along. The changes: (1) That to be commissionable, DO's must have a medical education matching that of MD's, and (2) that they must have approval of Surgeon General of service for which they are applying.

Osteopathy will say No. 1 presents no special problem. While it may be resentful of ominous import of No. 2, there is likely to be no protest that might jeopardize bill's passage.

Armed Services Committee acted favorably within 24 hours after receipt of Defense Secretary Charles E. Wilson's letter upholding (?) HR 483. In a tactfully worded communication, submitted more than a month after committee asked him to referee differ-

ences between the three Surgeons General and Assistant Secretary Frank B. Berry over appointment of DO's, Wilson upheld Dr. Berry but at the same time respected misgivings of the SG's. What he said substantially was that HR 483, as a *permissive* bill, merits enactment but the armed services should be and will be free to pick few DO's, or even none at all.

Thus the services are all but advised against utilizing the law, should it pass (Note: at House hearings earlier this year, Dr. Berry said it was Pentagon's intention to implement HR 483 if it became law). Unless there is a White House proclamation requiring DO's to register under doctor-draft law (Unlikely), it seems improbable that any will become medical officers for some little time to come.

Senator Margaret Chase Smith sponsored the amendment to HR 483 that was adopted that would take into account educational background for purposes of determining entering grade and require the surgeon general's approval for commissioning.

Health Insurance Committee

The Health Insurance Committee of the Maine Medical Association has been instructed to bring into the June 1956 meeting an alternate Blue Shield Plan with increased premiums and increased payments to physicians.

In an effort to come up with some acceptable plan, your committee has local groups in the larger centers working on "ideal" fees for all branches of medicine. In addition, every participating physician has, or will shortly receive a questionnaire which is vitally important to our task. Although doctors are notorious in their disregard for forms and questionnaires, won't you please take a few minutes to jot down your opinions, particularly since this directly affects your pocketbook.

Some of the questions we would like you to consider individually and in your county meeting are as follows:

We would like to know what you feel would be the "ideal" payment in full for individuals with less than \$4,000 income and in the case of families, those with less than \$6,000 income.

Further, would the right to charge the patient with incomes higher than these be invoked frequently enough to offset the tremendous good will the profession might obtain by accepting these "ideal" fees as payment in full regardless of income?

Various fees for inpatient medical care are being considered. Among these are: \$4.00 a day every day; \$10.00 first day, \$3.00 each succeeding day; emergent care, \$12.00 first day, \$8.00 second and \$3.00 each day thereafter; non-emergent, \$6.00 first day, \$4.00 second and \$3.00 thereafter . . . or the possibility of no payment for first three days unless the patient purchased a rider on his contract providing this. This latter would enable the plan to pay even greater fees than those mentioned above.

Should payments be made for psychiatric treatment, pathology and radiology outside the hospitals? Should consultation fees be paid, and if so, who is to constitute a consultant? Should a rider be available providing diagnostic services?

It should be kept in mind that we are searching for the "ideal" plan and the "ideal" fees, whether or not the plan can provide them at a premium low enough to be sold will require actuarial study. Therefore, we must have this information before we can bring a plan before the State Society in June. We earnestly solicit your cooperation.

LINUS J. STITHAM, M.D., *Chairman*
Health Insurance Committee

Another \$10,000,000 from Ford

A unique and interesting program of "matching" grants over the next five to ten years, of no more than

\$2 million per year, has been announced by the Ford Foundation.

The National Fund for Medical Education is the organization which distributes to Medical Schools the funds raised by the American Medical Education Foundation, along with contributions made by industry and the general public.

In 1955 the National Fund received \$2,147,000 in unearmarked funds. Of this amount an unearmarked

\$422,812 came from the Medical Profession through AMEF. Under the Ford Foundation formula, if 1956 receipts are equally large, there would be a Ford grant totalling 70% of this amount, or \$1,503,486. All contributions in excess of the 1955 total would be matched dollar for dollar, subject to the \$2,000,000 annual ceiling.

Doctor, Do You Treat Sick People?*

Probably you would be amused if a patient asked you this question. However, many people are seriously seeking physicians who will treat them because they are sick. They need such physicians badly, but you may not meet their need. These patients are distressed because such physicians are hard to find. They are not seeking someone to *cure* them of an illness; they are just looking for a physician who will *treat* them.

Some of these unhappy people realize there is no cure for them; you have told them so. You have told them they have incurable cancer or kidney or liver disease. You have told them or their families that nothing can be done for them; you have robbed them of hope. Technically, you are right. Although you have pro-

nounced a death sentence, many of these patients will have to live months, possibly years — possibly longer than you.

Doctor, when you know you cannot keep a patient from dying, why do you not help him to live?

Are you frustrated because you cannot cure everyone? Must you get the incurables off your hands because they emphasize your lack of omnipotence? I don't know why so many are interested only in the eradication of disease by our modern techniques, but I do know that we need physicians to treat sick people compassionately, and successfully. I also know that in a community blessed with this kind of physician, quackery will perish.

Doctor, do you know how to treat sick people?

SAMUEL B. HADDEN

*Reprinted from Pennsylvania Medical Journal, July 1955.

Doctor Suggests Lifetime Personal Health Book

CHICAGO — A lifetime personal health log — a sort of cousin to the traditional baby book — was suggested today by a Chicago medical school professor.

Dr. Carl A. Dragstedt, professor of pharmacology at Northwestern University Medical School, made his suggestion in a signed editorial in the April 14 issue of the Journal of the American Medical Association.

"What everyone in this country needs," he said, "is a good personal health log. By that I mean a suitable booklet in the permanent possession of everyone, in which would be recorded some of the important aspects of his health record, encompassing items for his family history, and data on such things as his vaccinations and inoculations, his diseases and operations, his blood pressure, blood cell counts, and similar laboratory findings. It would be for him, and all of his contacts with hospitals and physicians, somewhat comparable to a permanent passport for travelers. Upon consulting a physician

or entering a hospital, he would submit his health log. This would save considerable time now consumed in taking his history and would have the added advantage of being much more accurate and reliable than the frail memory of an anxious patient. Upon the termination of his illness, the log would be returned to the patient.

"The American citizen pays a considerable amount of money to get well and to keep well. . . . Upon settling up with his hospital or his doctor, the patient's log would be returned to him, brought up-to-date as to salient items regarding what was found and what was done. As it is, I dare say that for a great many people in the United States there is much information that has been gathered incident to sickness, hospitalizations, and periodic health examinations that is scattered amongst various hospitals and doctors' offices and becoming more and more inaccessible with time."

"Alcohol Pain" Is Symptom of Hodgkin's Disease

CHICAGO — Pain following a drink of beer or other alcohol now has been added to the thousands of unusual telltale signs which help doctors to diagnose diseases.

Three Minnesota doctors have reported that four

patients with Hodgkin's disease suffered severe pain in the arms, chest, neck, shoulder, or low back within five minutes after taking any kind of alcoholic drink.

The report by Drs. John O. Godden, O. Theron Clag-

Continued on page 159



COUNCIL OF THE MAINE MEDICAL ASSOCIATION 1955-1956

The Council members study the proposed budget for 1956-1957 at a meeting in Bangor on Sunday, April 8, 1956 preceding the Interim Meeting of the House of Delegates.

Seated: Martyn A. Vicker, M.D., Bangor, President of the M.M.A. and delegate to the A.M.A.; Mrs. Esther M. Kennard, Secretary-Treasurer; Armand Albert, M.D., Van Buren, President-elect; Francis A. Winchenbach, M.D., Bath, Council Chairman, and Councilor, Third District.
Standing: Richard P. Laney, M.D., Skowhegan, Councilor, Fourth District; Alcide F. DuMais, M.D., Lewiston, Councilor, Second District; William F. Mahaney, M.D., Saco, Immediate Past President; Raymond E. Weymouth, M.D., Bar Harbor, Councilor, Fifth District; Daniel F. Hanley, M.D., Brunswick, Executive Director; Allan Woodcock, M.D., Bangor, Councilor, Sixth District; Eugene E. O'Donnell, M.D., Portland, Councilor, First District.

INTERIM MEETING OF THE HOUSE OF DELEGATES
OF THE MAINE MEDICAL ASSOCIATION

Twenty-seven county delegates and five alternates, as well as all members of the Council, were present at the interim meeting of the House of Delegates of the Maine Medical Association on Sunday, April 8, 1956 at Bangor. This meeting is held primarily to acquaint the delegates with matters to be discussed and acted upon at the annual meeting in June. And, as is customary, the budget for the coming year as proposed by the Council, was first on the Order of Business. Copy of this budget has been sent to the county secretaries and delegates in accordance with the By-Laws. Consequently, the members of each county society will have an opportunity to discuss the proposed budget for 1956-1957 before the June meeting.

PROPOSED CHANGES IN BY-LAWS

Following are proposed changes in the By-Laws, as presented at the interim meeting. Final action on these will take place in June.
Constitution — Article VI — "Council — The Council shall consist of the President, President-Elect of the Association, Secretary-Treasurer (if a member of the Association), the immediate Past President, the delegate to the American Medical Association, and one Councilor from each Councilor District. Seven members shall constitute a quorum."

Suggest that this be changed to include the Executive Director (if a member of the Association) — i.e., The

Continued on page 152



TRANS WORLD AIRLINES

TWA



ACHROMYCIN^{*}

Tetracycline Lederle

in the treatment of

respiratory infections


January and his associates¹ have written on the use of tetracycline (ACHROMYCIN) to treat 118 patients having various infections, most of them respiratory, including acute pharyngitis and tonsillitis, otitis media, sinusitis, acute and chronic bronchitis, asthmatic bronchitis, bronchiectasis, bronchial pneumonia, and lobar pneumonia. Response was judged good or satisfactory in more than 84% of the total cases.

Each month there are more and more reports like this in the literature, documenting the great worth and versatility of ACHROMYCIN. This antibiotic is unsurpassed in range of effectiveness. It provides rapid penetration, prompt control. Side effects, if any, are usually negligible.

No matter what your field or specialty, ACHROMYCIN can be of service to you. For your convenience and the patient's comfort, Lederle offers a *full* line of dosage forms, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Attacks the infection—defends the patient—hastens normal recovery. For severe or prolonged illness. Stress formula as suggested by the National Research Council. Offered in Capsules of 250 mg. and in an Oral Suspension, 125 mg. per 5 cc. teaspoonful.

 For more rapid and complete absorption. Offered only by Lederle!

¹January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.



LEDERLE LABORATORIES DIVISION
AMERICAN CYANAMID COMPANY
PEARL RIVER, NEW YORK

*REG. U. S. PAT. OFF.

PHOTO DATA: 4X5 VIEW CAMERA, F5.6, 1/25 SEC., EXISTING LIGHTING AT DUSK, ROYAL PAN FILM.

INTERIM MEETING OF THE HOUSE OF DELEGATES OF THE MAINE MEDICAL ASSOCIATION

Continued from page 149

Council shall consist of the President, President Elect of the Association, Executive-Director (if a member of the Association), etc. . . .

By Laws: Chapter V, Section 9 — "The Council shall prepare and present to the House of Delegates for its consideration an annual budget providing for the necessary expenses of the Association. Such budget shall be prepared at least sixty (60) days before the opening of the Annual Session, *and copies thereof shall be sent to the Secretary of each county society for distribution to the delegates, when elected.*"

Suggest that the words in italics be changed to read as follows: "and copies thereof shall be sent to the secretary, delegates and alternates of each county society."

By-Laws: Chapter XIII, Section 1. "These By-Laws may be amended at any Annual Session by a majority vote of the delegates present at that Session if the proposed amendment has been submitted to the Council and has been published *in the issue of the Journal published at least thirty (30) days preceding the annual meeting.*"

Suggest that the words in italics be changed to read as follows: "in the issue of the Journal for the month preceding the annual meeting."

RESOLUTIONS

The following resolutions were presented — these too will be on the agenda for the annual meeting:

The first resolution, which follows, was presented by Richard C. Wadsworth, M.D., of Bangor, from the Penobscot County Medical Society:

Resolved that there shall be nominated by the Nominating Committee of the Maine Medical Association, fifteen members of the Maine Medical Association to serve on the Health Insurance Committee, to represent each of the fifteen component county societies. That the President of each county society shall recommend a representative from his constituent society and that from these fifteen members, five shall be appointed for three years, five for two years, and five for one year, and that reappointment shall be for a period of three years

or subsequent appointment. Furthermore, that this group of fifteen shall appoint an advisory committee to consist of one member representing each of the various medical specialties.

The second resolution, which was presented by Harry M. Helfrich, M.D. from the Aroostook County Medical Society, is as follows:

Resolved that a letter be sent from the office of the executive director to all physicians who become licensed in the State of Maine listing pertinent information necessary to the proper practice of medicine.

Resolved further that the following be included in this letter.

1. Information concerning various forms of insurance.
 - a. Group health and accident insurance.
 - b. Malpractice Insurance Companies recommended by the State Medical Society.
 - c. Life Insurance under the group plan.
2. Copy of the State Health Laws.
3. State and County Society information, i.e., dues, etc.
4. Blue Cross and Blue Shield.
5. Community Medical Resources — State Clinics, Rehabilitation
6. State and County Hospitalization Programs
7. Narcotics Registration

COMMITTEE REPORTS

Committee reports were presented by the following: Linus J. Stitham, M.D., Chairman, Health Insurance Committee; M. Tieche Shelton, M.D., Chairman, Legislative Committee; Frank W. Barden, M.D., Chairman, Industrial Health Committee, and William C. Burrage, M.D., Chairman, Veterans Affairs Committee. Eugene E. O'Donnell, M.D., presented a brief report for Donald F. Marshall, M.D., Chairman of the Medical School Committee. A report submitted by Charles W. Steele, M.D., Chairman of the Civil Defense Committee, will be presented at the annual meeting in June.

ESTHER M. KENNARD
Secretary-Treasurer



ANSWERING QUESTIONS



OBSTETRICAL SERVICES

POINTS TO BE STRESSED: Definition and conditions under which benefits are allowed.

I DEFINITION

"Obstetrical Services" means:

- A. Normal or abnormal delivery of one or more live or dead fetuses of seven (7) or more months' gestation.
- B. Prepartum and postpartum care during confinement with childbirth.
- C. Treatment of toxemia of pregnancy when such treatment is rendered to a hospitalized bed patient.

II CONDITIONS FOR SERVICE TO QUALIFY AS A BENEFIT

- A. Both patient and her spouse must have been enrolled under a Blue Shield Plan for a minimum period of one (1) year next prior to the date of confinement, BUT NOT NECESSARILY UNDER THE SAME CONTRACT.

B. Obstetrical service must be rendered by a licensed physician.

III LOCATION OF SERVICE TO QUALIFY AS BENEFIT

- A. Delivery is a benefit regardless of where the service is rendered.
- B. Prepartum and postpartum care during confinement with childbirth — Hospital bed-patient.
- C. Treatment of toxemia of pregnancy — Hospital bed-patient.

IV LIMITATIONS

The delivery of a live or dead fetus of less than seven (7) months' gestation IS NOT considered an obstetrical service and is processed as a surgical claim, inasmuch as such services are considered surgical claims, they are not subject to the waiting period imposed on an obstetrical service.

SERVICES TO NEWBORN CHILD

POINTS TO BE STRESSED: Conditions under which benefits are allowed.

I The benefits to Blue Shield member parents of a newborn child shall include, for a minimum period of 75 days after birth,

A. Surgical Services

- 1. As described in March 1956 issue of Maine Medical Association Journal or as set forth in Maine Blue Shield Contract, Article III (2).
- 2. CONDITIONS FOR SERVICE TO QUALIFY AS BENEFIT
 - (a) Surgical correction of a congenital defect or

- (b) Surgical correction of a serious birth injury
- (c) Parents of the child must be members at the time of service but it is not necessary that they be eligible for maternity benefits. No waiting period is required.

B. Medical Services

- 1. As described in December 1955 issue of Maine Medical Association Journal or as set forth in the Maine Blue Shield Contract, Article III (1).

Continued on page 161



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Psychological Care Of Tuberculosis In Children

(The following discussion of this aspect of tuberculosis was given by Dr. Charlotte Marker* as a part of a symposium at the Central Maine Sanatorium, Fairfield on March 19, 1956. Her remarks seem to have wide enough interest to merit this reproduction.)

In considering the psychological aspects of tuberculosis in children, we must first consider the effects of chronic disease and prolonged hospitalization on a child. There have been many studies of children who have been institutionalized for long periods of time and it has been found that under these circumstances, particularly during the first two to three years of life, children tend to show permanent effects of severe emotional deprivation. For example, they show evidences of anxiety, such as restlessness, hyperactivity or inability to concentrate. There are expressions of aggression, such as temper tantrums, destructiveness, cruelty and particularly, aspects of emotional impoverishment or unresponsiveness. They have an inability to relate to others unlike children spending two or three years either at home with parents or in a foster home. These effects are irreversible.

It is obvious, therefore, that if a child does not absolutely require institutionalization or hospitalization he is far better off, as far as his future emotional health is concerned, if he can be cared for at home. If his mother or father or both are in hospitals and he cannot be taken care of by them, certainly he is far better off in a foster home with conditions similar to those that he would find in his own home, than he is in any kind of an institution, even the best.

In an older child, the trauma is not quite as severe. Still, the separation from his family and the transfer to a relatively impersonal environment, particularly when accompanied by physical illness as well, is a serious shock to the child. However, attempts have been made where it has been absolutely necessary for a child to be in an institution to make it as much like

home as possible, to make it, in a sense, a home away from home.

For a child who is old enough, for example, there should be a special effort by one person to introduce him to his new environment and to help him make his initial adjustment. This might be a nurse or social worker or some other person on the staff of the hospital. He should be welcomed warmly. He should be shown around and made familiar with his new environment if his physical condition permits. He should be introduced to the personnel and to his fellow patients. Thus he can relate to the person who is with him a good part of the first day and begin to relate to the other people in the sanatorium. Of course, it is up to the hospital staff and the patients to make the new child feel accepted.

We find that it is much better to have the children divided into small groups instead of having them in one large ward for it is much more like a family unit if you have a small group of children. One nurse should be entirely responsible for the group. She is, in a sense, the mother substitute for those children. She is in charge of their medication, in charge of their general care, their meals, etc. That is very helpful in making a child feel that he belongs.

Another thing we learned was that bed rest was extremely difficult to enforce in children and perhaps it is better not to enforce it. An acutely ill child will limit his own activities. He wants to stay in bed, he wants to be quiet and he wants to rest. When a child feels well, and in most instances this is true of children with primary tuberculosis, they are actually less active when they are allowed up out of bed for at least part of the time, sitting at the table for meals, playing with a small group of children in the nursery room or if they are older, going to school. They are much quieter in a schoolroom while they are doing their lessons than they would be trying to get out of bed, climbing over the crib sides and even managing to get out when a net is put over the crib. Of course, there are other ways of keeping them busy and entertaining them quietly, there are movies that the children see on the wards and there are TV programs. They

*Dr. Charlotte B. Marker is a graduate of New York University College of Medicine, is an Assistant Visiting Physician on Children's Medical Service at Bellevue Hospital and an Assistant Professor in Pediatrics in New York University College of Medicine. Dr. Marker is also in charge of the laboratories of the Chest Clinic of the Children's Medical Service of the Bellevue Hospital.

have periods of musical activity, they have periods of drawing, and with good supervision they can be much happier and actually quieter than if they are left to their own devices in bed without any supervision at all. Even when bed rest is necessary, it is important to have recreational workers, nursery school teachers or other qualified persons to supervise their play, to read to them, to play with them and to keep them happy while they must remain in bed. Otherwise, they tend to get overactive and restless.

It is extremely important for their families to visit as often as possible. There is no complete replacement for their mothers and fathers and if it is possible we feel that such visits are most helpful. We have found that it has done the children on our wards a great deal of good to have unrestricted visiting. The mothers can come at any time to see the children. We find that the mothers and fathers are very helpful on the wards. Frequently we are short of personnel. They help out at mealtime and perform many useful chores on the wards for other children as well as their own. This also serves to identify them more closely with their children's illness and fosters greater understanding of the disease on the part of the parents.

It is also helpful for children to relate constantly or as constantly as possible to the outside world so that when they do go out they will not feel, after a prolonged period of hospitalization, that it is totally strange to them. We encourage, for example, making gifts for their families and friends at Christmas time, for birthdays and for other occasions. We encourage activities that they might do at home, picnics for example, even if they must be indoor ones, fussing around the kitchen for the girls, cooking, under adult supervision, a shop for the boys, "pretend" trips, etc. Some of the children who have spent the good part of their early life in a hospital are terrified of the usual household pets and it is wise, if you cannot introduce them to pets in person, at least to let them know something about them by stories, by seeing pictures, etc.

It is also important to the children to have a phase of convalescence after a prolonged period of complete or semi-bedrest so that they gradually get over this period of hospitalization. This can be done in a convalescent home or at the sanatorium. We find that they adjust much better to normal outside life after such a period. Also, of course, children who are severely disabled following such serious diseases as meningitis require a fairly extensive period of rehabilitation. They may have residual paralysis, or paresis or they may have a deafness, etc. They require a period of rehabilitation before they can enter into normal relationships outside of the hospital.

With regard to the effect of tuberculosis specifically on the personality of a child, in a study done on our ward a few years ago by Dr. Sarah Dubo, it was found that these children were riddled with fears, frequently

due to an awareness that relatives had died of tuberculosis. They are preoccupied with death. They have feelings of guilt and inadequacy and frequently blame themselves for contracting the disease. They say they didn't obey their parents or didn't eat the right food, stayed up too late, etc. They have extreme anxiety and they also frequently show some regression in behavior as children usually do with any kind of chronic disease.

In addition, they have many misconceptions. I would like to show you a few drawings which I think are very interesting and which illustrate this. We had one child on the ward who had a primary of his elbow. He was not very sick, as a matter of fact, he did very well, but when the doctors made their rounds he heard them discussing a possible operation for him. What they intended to do was to biopsy a node, but he knew that when children had operations they had a lung removed and he became rather depressed. He lost his appetite, became quite apathetic and began to make drawings showing the loss of his diseased arm. He imagined that it was going to be removed. As soon as this was brought to Dr. Lincoln's attention by the art teacher, he was reassured. He stopped making the drawings and became a much happier child. This disturbed body image concept occurred because of misconceptions and the anxiety they engendered.

Well, what can we do about these children? If there is a good doctor-patient relationship, the child will come to the doctor and ask some questions. Frequently, doctors are busy, they rush through the ward and they do not really spend any time with the children. It is most helpful if the children who are old enough to understand something of their disease can have a discussion with the doctor from time to time. It is also most helpful if groups of patients can have similar discussions about their disease. They can be given basic information and their questions can be answered. In these group discussions, a child too inhibited to ask a question still may have it answered when another child asks the same or a similar one. Dr. Dubo found that such discussions were most helpful in giving them an opportunity to express their anxieties. Occasionally with a very inhibited child or others who may show marked abnormal behavior, the services of a psychiatrist are required.

In regard to preparation for surgery, when that is necessary, it has been our policy to acquaint the child with the various things with which he will come into contact; to take him to the operating room, show him around, show him the mask that is used for anesthesia and show him the oxygen set-up. We take him over to the surgical ward and introduce him to some of the personnel, rather than have him wake up there in a strange bed with strange people around him. If he gets to know them in advance, it can do a lot to alle-

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County Society Notes

HANCOCK

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine, on Wednesday, April 11, 1956. There were thirteen members present. The meeting was opened by the president, John T. Connell, M.D. The minutes of the last meeting were read and approved.

James H. Crowe, M.D. brought to the attention of the members a proposed increase in the Maine Medical Association dues. A motion was passed that this society is in favor of an increase in M.M.A. dues to fifty-five dollars (\$55.00) a year. Proposed changes in the M.M.A. By-Laws were also discussed.

Llewellyn W. Cooper, M.D., of Bar Harbor, was elected a member of the society.

The speaker of the evening was John Van Duyn, M.D., of Bangor, who gave a very instructive and interesting talk on "Plastic and Reconstructive Surgery" which was well illustrated with colored slides.

ARTHUR M. JOOST, JR., M.D.
Secretary

LINCOLN-SAGADAHOC

A regular meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges, Wiscasset, Maine on April 17, 1956. There were eleven members and guests in attendance.

The meeting was called to order by President Joseph Smith, M.D. The minutes of the last meeting were read and accepted.

The secretary brought up for discussion the subject of Medical Education Week. Dr. Francis Winchenbach stated that most of the public relations work would be done by experts hired for this purpose by the Maine Medical Association, but he asked that any of us who may be asked to speak on radio, TV, or before civic groups, be cooperative. John F. Dougherty, M.D. is to be interviewed on TV and Everett D. Schubert, M.D. is to speak before the Brunswick Lions Club.

Samuel L. Belknap, M.D. reported for the Health Insurance Committee on the proposed plan of Blue Shield for higher income members. A general discussion followed during which the members were urged to fill out and return the Health Insurance questionnaire sent out by the Health Insurance Committee.

Dr. Dougherty reported on the increase in State dues proposed at the interim meeting of the House of Delegates of the Maine Medical Association. Action by the Society on this proposal was postponed until the next meeting when it is hoped that there will be a larger attendance.

Deane L. Hutchins, M.D. of Worcester, Massachusetts was elected to membership.

Fernando Rubio, M.D., of the New England Center Hospital, Boston, presented a paper on Management of the Jaundiced Patient.

EVERETT D. SCHUBERT, M.D.
Secretary

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Notes on the Diagnosis and Management of "Dizziness"

III. Ménière's Syndrome



1. Paroxysmal Whirling Vertigo. *This consists of sudden attacks of dizziness, often when the patient is at rest or asleep. The patient may feel that he himself is whirling or that fixed objects about him are whirling. The attack usually lasts for a few minutes; occasionally it is severe for weeks or subacute for months.*



2. Subtotal Hearing Loss.

Deafness will usually affect the high tones and it may be unilateral or bilateral. Sometimes the hearing loss is severe and also progressive.



3. Tinnitus. *This is usually unilateral and present in the ear with greater hearing loss and is without a definite pattern.*

Fewer diagnostic errors¹ will result if a "triad of symptoms" is required of patients with suspected Ménière's syndrome. These are the symptoms of typical Ménière's syndrome:

1. Severe paroxysmal vertigo which may be of two types; either the patient feels that he is whirling or that objects about him are whirling.
2. Fluctuating subtotal hearing loss, usually affecting the higher tones, is noted at the same time as vertigo.
3. Tinnitus, usually unilateral, is associated with the deafness and dizziness.

With Ménière's syndrome there is no definite localization² by the Bárány (vestibular reaction) test and results of the caloric test are not diagnostic. Physical examination should rule out disease of the central nervous or cardiovascular systems before a diagnosis is made.

"Treatment with Dramamine® . . . is effective³ in aborting and preventing attacks of Ménière's syn-

drome . . . will prevent or arrest attacks of vertigo. It will also reduce the intensity of the tinnitus and so may save some of the hearing in the affected ear."

Dramamine is recommended for Ménière's syndrome as the sole therapy or in combination with other treatment programs.

It is a therapeutic standard also for motion sickness and is useful for relief of nausea and vomiting of radiation sickness and fenestration procedures.

Dramamine (brand of dimenhydrinate) is supplied in tablets (50 mg.); Supposicones® (100 mg.); ampuls (250 mg.); liquid (12.5 mg. in each 4 cc.). G. D. Searle & Co., Research in the Service of Medicine.

1. DeWeese, D. D.: Symposium: Medical Management of Dizziness. The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. 58:694 (Sept.-Oct.) 1954.

2. Jackson, C., and Jackson, C. L. (editors): Diseases of the Nose, Throat, and Ear, Philadelphia, W. B. Saunders Company, 1945, pp. 368; 414.

3. Queries and Minor Notes: Ménière's Syndrome, J.A.M.A., 141:500 (Oct. 15) 1949.

Notices

Audiology for Industry

Colby College, Waterville, Maine, presents the Fourth Annual Course in Industrial Deafness, August 5-11, 1956 inclusive. Objective of the course will be to train personnel in initiating and in conducting hearing conservation programs in noisy industries. Seven full time instructors have been selected from authorities in this field. Class limited to the neighborhood of twenty participants.

Registrants will live on the College Campus and the tuition fee of \$200.00 includes board and room. Applications should be made to Mr. William A. Macomber, Division of Adult Education and Extension, Colby College, Waterville, Maine.

FREDERICK THAYER HILL, M.D., *Director*
JOSEPH SATALOFF, M.D., *Associate Director*

Symposium for General Practitioners on Tuberculosis and Other Chronic Pulmonary Disease

The Fifth annual Symposium for General Practitioners on Tuberculosis and other Chronic Pulmonary Disease will be held in Saranac Lake, New York from July 9th to 13th, 1956. It is approved for 26 hours of formal credit for members of American Academy of General Practice.

This five day course is designed particularly for General Practitioners and presented over a period short enough so that they may readily attend.

The registration fee for the Symposium is \$40.00. Further information and copies of the program can be obtained by writing Dr. Edward N. Packard, General Chairman, Symposium for General Practitioners, P. O. Box 262, Saranac Lake, N. Y.

Correspondence

April 24, 1956

Dr. Martyn A. Vickers, President
Maine Medical Association
Dear Doctor Vickers:

May I take this opportunity to express thanks from the National Foundation for Infantile Paralysis to the Maine Medical Association as a whole and to its individual members for their excellent cooperation with the state health department and the National Foundation in the successful conduct of the poliomyelitis vaccine demonstration program in Maine during 1955.

The chief beneficiaries of this program, of course, were the Maine school children, mainly in the first and second grades, who received one or more injections of vaccine supplied by the National Foundation during the year 1955. A total of 45,590 cc. of vaccine was supplied.

You may be interested to know that, thanks to your help, 20,281 Maine children received at least one inoculation; 16,895

received two inoculations; and 1,247 received a third (booster) inoculation up to October 26, 1955.

Approximately 24% of the Maine children in the 5-9 age group, the age group most susceptible to paralytic poliomyelitis, thus obtained a high degree of protection against the disease in 1955 as a result of this program.

The cooperation of the Maine Medical Association helped materially to account for this fine record.

While this is a formal expression of gratitude for your help, the real expression must come from the parents of those many children in Maine who feel free from the threat of paralytic poliomyelitis in their families now that the 1956 poliomyelitis season is at hand.

Very cordially yours,

HART E. VAN RIPER, M.D., *Medical Director*
The National Foundation for Infantile Paralysis
New York, N. Y.

Book Review

The Interpretation of the Unipolar Electrocardiogram Gordon B. Myers, M.D. (The C. V. Mosby Co., 1956)

This book of 164 pages, 8½" x 11", mostly close-printed, is stated to be an outgrowth of manuals prepared to supplement the Graduate Course in Electrocardiography given at Wayne University College of Medicine for many years. Aside from diagrams with the presentation of the basic physics necessary for interpretation, it gives description of unipolar electrocardiogram findings without illustration. Though it is laborious reading, it is a lucid text. It is not something to interest one with only a casual interest in the subject. However, those who take, or plan to take, the responsibility of independently interpreting electrocardiograms should find this an excellent compendium.

The book contains five sections:

- A. Introduction. The relation of the electrocardiographic deflections to mechanical and electrical events in the cardiac cycle.
- B. Procedure for the interpretation of multiple precordial and unipolar limb leads.

- C. Origin and form of the normal and abnormal QRS-T complex.
- D. Disorders of rate and rhythm.
- E. Summary of QRS-T patterns in unipolar thoracic and limb leads.

The section on "Disorders of rate and rhythm" is comprehensive without undue emphasis of the rare or the bizarre, and is very worthwhile.

The basic theory for QRS-T patterns is that developed by the late Frank N. Wilson and associates. The criteria for the normal and for the various common abnormal patterns, along with the more common differential problems, are clearly set forth on the basis of Wilson's concepts. Dr. Myers states that the customary limb and six precordial leads (V-1 through V-6) fail to explore the heart adequately. He advises that sufficient leads to explore the heart should include V-3R through V-8, high chest leads taken at the level of the third anterior rib interspace in positions V-1 through V-8, and the three unipolar limb leads. Incidentally, he feels that the three bipolar or standard limb leads can be omitted since they yield no information that can not be obtained better from the above-mentioned leads.

ACROSS THE DESK

Continued from page 148

ett, and Howard A. Andersen of the Mayo Clinic and Foundation, Rochester, was made in the April 14 Journal of the American Medical Association.

Hodgkin's disease is a normally painless but progressive enlargement of the lymph nodes, spleen, and general lymphoid tissue, which often begins in the neck and spreads over the body.

The doctors said in their four patients the pain appeared almost immediately after a few swallows of alcohol. Neither the type of drink nor the amount consumed influenced the pain. The patients described it as "paralyzing," "dragging," and "an achy numb feeling." The pain lasted from 15 or 20 minutes to three hours in the various patients.

Labeling Ruling Issued on Aspirin to Protect Children

To protect children from accidental poisoning from overdoses of aspirin and other salicylate drugs, Food and Drug Administration is calling on manufacturers to use conspicuous package warnings that these preparations should be kept out of the reach of children. The recommended statements are: "Warning — Keep Out of the Reach of Children," or "Warning — Keep This and All Medications Out of the Reach of Children." Instead of dosage instructions for children under three

years of age, FDA recommends this statement on the label: "For Children Under Three Years of Age, Consult Physician."

The advisory ruling is an outgrowth of recommendations made earlier in the year by a medical advisory panel, called in by FDA to consider how to safeguard children from accidental overdoses of these preparations.

Manufacturers have the privilege of using the rec-

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commended statements or similar language of their own choice. They are given six months to make the change-over. In announcing the ruling, FDA Commissioner George P. Larrick emphasized that manufacturers are cooperating wholeheartedly in the campaign to protect children from this type of accident, which results in about one hundred deaths a year, mostly among children under five. The industry itself is about to undertake a

national campaign to educate families to the dangers of accidental poisoning from various types of drugs, medicines and chemicals commonly kept in the home.

The new ruling does not apply to oil of wintergreen (which already carries a warning statement), effervescent salicylate preparations, or preparations of par-amino-salicylic acid and its salts, used only in the treatment of tuberculosis.

New England Hospital Builds International Good Will

CHICAGO — A new approach to the training of foreign physicians, developed by the New England Hospital in Boston, is described in the February 18th issue of the Journal of the American Medical Association.

Recently launched by the 93-year-old hospital, the program is designed to meet the social, psychological and medical training needs of alien physicians studying in the hospital, Dr. Carl Barse, Boston, said. Although designed to aid women physicians, the plan is applicable to both men and women.

Since these doctors' English is seldom fluent, the program includes an intensive English course, with emphasis on idioms and medical vocabulary, during the first month. Demonstrations of American medical techniques are also included in the introductory month.

In the year's medical training which follows, the usual house officers' activities are supplemented by weekly lectures in the basic sciences. Tours and social activities are arranged, so the visitors may meet American

business and professional people, as well as people from their own countries.

With more than 5,000 alien physicians from eighty-three different countries annually training in the United States, hospitals have a vast potential for building international good will, Dr. Barse said, suggesting that the New England Hospital plan might be used in other hospitals.

Given proper indoctrination, foreign house officers not only can be valuable to American hospitals during their training period, but, on returning home, can exert a powerful influence as emissaries of good will among their patients in their own countries, he said.

Approximately sixty per cent of the hospitals approved for residencies and internships have alien physicians on their house staffs. These physicians constitute up to one-fourth of all the residents in the country, he said.

National Survey Shows Uneven Rise in Medical Costs

The various items that make up the medical bill of the nation have advanced at uneven rates, according to a Social Security Administration survey on health insurance for the years 1948-54. For instance, the study notes costs for hospital services during that period had risen 79%, while spending for physician's services had

advanced 33%. Some other findings: (1) Blue Cross is the major supplier of hospital coverage, furnishing 49% of all insurance benefits paid, (2) commercial group insurance leads in provision of coverage for physicians' services at 37% of the total benefits, followed by Blue Shield plans at 34%.

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ANSWERING BLUE SHIELD QUESTIONS

Continued from page 153

2. CONDITIONS FOR SERVICE TO QUALIFY AS BENEFIT

Medical Treatment must be for:

- (a) Care of serious infections
- (b) Shall be available only after the discharge of the mother
- (c) Parents of the child must be members at the time of service but it is not necessary that they be eligible for ma-

ternity benefits. No waiting period is required.

C. LIMITATIONS

The child shall be ineligible to receive benefits as a Member in its own right, until included in the Family Group by acceptance by A.H.S of an application. The above benefits are granted as a benefit of the member parents contract.

PSYCHOLOGICAL CARE OF TUBERCULOSIS IN CHILDREN

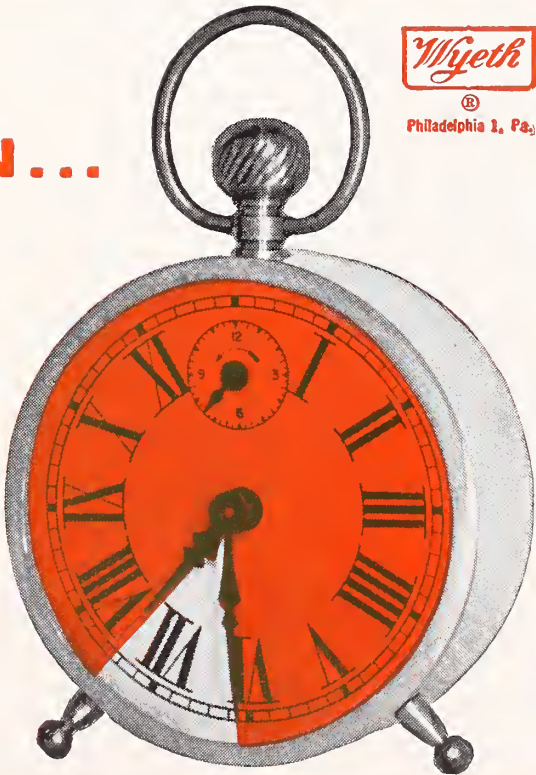
Continued from page 155

violate fears. Then, of course, we explain why the operation is necessary to make him well. The children are introduced to others who have already undergone operations and have done well. Thus, they can see that pa-

tients do survive operations well and are happy.
See: William Goldfarb: "Effects of Psychological Deprivation in Infancy and Subsequent Stimulation" Am. J. Psych. 102-18 July, 1945.

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Tuberculosis Abstracts^{*}

Issued By The National Tuberculosis Association

The Tuberculin Test

By Floyd M. Feldmann, M.D., Medical Director, National Tuberculosis Association, NTA BULLETIN, November, 1955.

Any community tuberculin testing project can best be handled by a central committee with wide representation including the medical society, the tuberculosis association, the hospitals, the health department, the schools, the social agencies, the nursing groups, the Parent-Teachers Association, and any others who may have some direct or indirect interest. After a general plan has been agreed upon, a smaller group can serve as an advisory group but better results will be obtained if everyone interested directly has a chance to be fully informed and has a part in deciding on the plan.

The plan should include provision for everything from the educational campaign through a complete follow-up and report. Adequate records will be indispensable for final evaluation. Sample forms are now available from the Social Research Division of the National Tuberculosis Association.

A well worked-out plan for informing the whole community about the tuberculin testing program is a necessity and also affords an opportunity to extend interest to the entire tuberculosis control effort. Expert guidance from professional health educators should be sought and represented on the central planning committee.

All reactors should have chest X-rays annually, although few white children up to age 12 will have demonstrable lesions. This may become more important if the use of chemotherapy for primary lesions becomes general. This preliminary X-ray check of reactors is only the first step in the follow-up programs and will usually reveal few or no active cases.

The next and more difficult step is the examination by tuberculin test, X-ray, or both of all contacts of new reactors found. This is more successful among young children who have fewer contacts with adults and most of these are in the home. Practically, this search should be extended to reach the contacts of older children and adults who have recently become tuberculin reactors.

At present the available data are inconclusive both as to prevailing infection rates, trends in these rates, and the efficiency of various tuberculin testing programs in discovering new cases. Efforts are now being made to collect what information may exist but this has not so far been analyzed and reported. Plans for new studies are contemplated.

However, scattered reports provide a basis for some speculation: 1. Tuberculin infection rates are declining in most places. Reactor rates in schools and colleges are lower in recent years. 2. Infection rates vary considerably geographically and by age and sex. Rates are higher in more densely populated areas and increase up to age 60-70, although females have lower rates than males after age 30. After age 60-70 there is a decrease in reactor rates, but they remain high. There is some indication that new infection rates taper off rapidly after age 30-40 and that the high rates in the older ages are the result of high infection rates in the years when they are young. 3. Case-finding results using the tu-

berculin test as a preliminary screen are extremely variable but usually disappointing.

There are some theoretical reasons for the failure of tuberculin test programs to uncover larger numbers of previously unknown active cases: 1. In areas of low incidence and low prevalence of cases, factors at present not specifically identified, delay or prevent the development of infection into significant disease. 2. Well conducted health department programs with efficient continuous follow-up of old cases and new cases with their immediate contacts are already discovering most of the new and relapsing cases. 3. With the shift of average age of active cases to an older level, there is less likely to be a school age child in a home where a person with active tuberculosis resides. 4. Many children who live in a home with a tuberculosis patient do not become infected. 5. Many children are probably infected by casual contacts not easily traced.

Although the individual tuberculin test may seem inexpensive, the cost of a program can be very high for the results obtained in the control of tuberculosis. Material costs are low but all those tested must be seen at least twice by someone with professional training and a variable number will require subsequent X-ray examinations. The follow-up of contacts also requires large amounts of professional time and travel. Often the professional time is donated or hidden in the budget of another agency but it is a real cost and should be taken into account.

Although no one can place an absolute value on the benefit to the community in finding a case, the costs of a case-finding program must be weighed against other possible procedures which might be more efficient. A rational decision can only be made by a careful study in each community. Programs should be well planned with subsequent evaluation in mind.

Tuberculin tests are valuable in diagnosis, to determine the status of tuberculosis control in a community, and perhaps as a screening tool in case-finding. Although several techniques are in use, the intradermal test with P.P.D. is preferred. Patch tests can be used successfully but have definite disadvantages.

For determination of rates of infection and rate trends in a community, the best information can be obtained by testing the whole population. In decreasing order of efficiency, the test program may consist of a scientific sampling of the whole population, all school children and school employees, and selected school grades.

An important part of the preparation for a tuberculin test program which is valuable for both its immediate and long-range benefits is an extensive educational program for the whole community with as wide participation as possible.

The follow-up program is difficult and expensive. It must include examination of contacts of reactors as well as X-rays of reactors, and must be planned for in advance.

Accurate data on the case-finding potential of programs using the tuberculin test as a screen are almost totally lacking. Those who may have such data are urged to make them available through publication. Current tuberculin testing programs should be thoroughly evaluated and a few pilot studies should be initiated. Special assistance in planning such studies is now available through the NTA Division of Social Research.

Editor's Note: This is the second of two abstracts on the tuberculin test — the first of these was the April issue of Tuberculosis Abstracts.

^{*}Vol. XXIX, May, 1956, No. 5

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)



The Journal of the Maine Medical Association

Volume Forty-Seven

Brunswick, Maine, June, 1956

No. 6

Snapping Hip—A New Mechanism for its Production

JOHN A. WOODCOCK, M.D.*

The entity known as snapping hip has received comparatively little attention in the literature in the recent past. The mechanics of snapping hip were well worked out by Binnie, Jones, and Mayer in separate papers. Other contributions have been made by Parsons, Leemans, Dickinson, Moreira.

The common mechanism involved in snapping hip is said to be one of two types. The first involves the tensor fascia femoris, under which the greater trochanter glides on internal rotation of the femur. When the tensor fascia femoris is locally thickened in the area opposite the greater trochanter (the so-called "tractus cristo-tibialis zur Veth"), it causes the greater trochanter to "jump" when internal rotation is performed. The explanation for the existence of such local thickening of the tensor fascia femoris is not clear. The second mechanism concerns the anterior fibres of the gluteus maximus which pass over the greater trochanter. These fibres may become hypertrophied, and cause a snap

when the greater trochanter is rotated internally. Both conditions have been amenable to surgical intervention. The surgery has been directed at the cutting of the anterior fibres of the gluteus maximus, or the tensor fascia femoris whichever the causative factor may be.

Other causes of snapping hip may have been proposed. It may result from a multitude of conditions such as serous bursae, malformed femora, particularly coxa vara, and foreign bodies. We are concerned in this paper with only the common mechanisms in review.

CASE REPORT

The following case is presented as a new mechanism for snapping hip.

A 20-year-old student nurse was seen in the Orthopaedic clinic with the complaint of bilateral snapping hip as long as she could remember. Recently the left hip had become painful when snapping. There was no history of trauma. Past history revealed that the patient had been operated on for knock knee, at which

*Attending Orthopaedic Surgeon, Eastern Maine General Hospital, Bangor, Maine

time bone was removed from the left iliac crest for graft purposes. This was anatomically well above the area of snap. Examination showed normal passive hip joint motion bilaterally. The patient was able to produce the snap by adducting and internally rotating the femurs. X-rays of the hips revealed no abnormality. It was felt to be the common variety of snapping hip. The patient desired operation for the symptomatic left hip, and accordingly it was done.

The left hip area was exposed through a curvilinear incision over the great trochanter. The gluteus maximus was identified and found not to be involved in the snapping. The tensor fascia femoris was observed to be thickened opposite the greater trochanter, consistent with the "tractus cristo-tibialis of zur Veth." The femur was internally rotated against the tensor fascia femoris. The expected mechanism did not obtain, however. The greater trochanter firmly contacted the tensor fascia femoris, but did not glide under it as is usual for the snap. A leverage system was set up, and the snap produced by an actual visible subluxation of the hip joint itself. The manoeuver was repeated several times with the same result. The operator's assistant, a veteran orthopaedic surgeon, was asked to repeat the manoeuver, and, so doing, confirmed the facts.

The tensor fascia femoris was divided in its posterior five-sixths, and the snap was eliminated. Since operation there has been no recurrence. The follow up period is three years.

DISCUSSION

This is felt to be a new mechanism of snapping hip.

The existence of a thickened tensor fascia femoris is thought to be the prime factor in the production of this case of snapping hip. The tensor fascia femoris was so unyielding, as was the greater trochanter, that a leverage was applied, and the point of least resistance was the hip joint. The head of the femur rode partially over the acetabular labrum, hence the snap. It is interesting to note that the x-rays of both hips showed normally developed acetabula. The patient had previous surgery on the iliac crest, at the point of origin of the tensor fascia femoris, but this is believed to have no bearing on the condition, as the area of thickening of the tensor fascia femoris responsible for the snapping mechanism was well below the iliac crest, and was not exposed in the removal of the iliac bone.

SUMMARY

1. The usual mechanisms for snapping hip are presented briefly.
2. A different, seemingly new, mechanism has been encountered, and is summarized, after successful operative intervention.

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A Venture Into The Private Practice of Medicine

ROBERT J. CARSON, M.D. AND MANU CHATTERJEE, M.D.
 Brunswick, Maine

Having recently ventured into the private practice of medicine, we thought that some of our experiences in finding the right location might be of interest. What type of medicine and where to practice is a major problem in the minds of most medical students and residents and probably remains a problem in the minds of many practicing physicians — judging from the number of men in private practice who return for specialized training. It is obviously desirable to make these decisions so that future changes are not necessary.

Because of the complexity of medicine today a few of us felt that we could answer the greater part of our desires if we combined our various resources. We have been sure of one concept from the beginning — and that is that we wanted to practice in a small community

(as contrasted to a big city). And we also wanted to be able to keep up with the progress in medicine as well as to make this progress available to patients who are not in immediate reach of a large Medical Center.

The transition from medical school and hospital training to private practice in semi-rural areas is, of course, great. Training takes place in very well equipped hospitals where library, laboratory, investigative and teaching facilities are for the asking. It is the rare community where one can find any of these most helpful and intellectually stimulating adjuncts. This is partially, but not entirely justifiable. It is very gratifying to find many Citizens' Committees working hard and successfully toward achieving better hospital facilities and medical coverage. We felt that we might partially solve the

problem by having three or four doctors practicing together and thus pool our training as well as our material resources. We felt that on theoretical grounds, at least, the coverage to the patient through group effort could be greater, as well as the opportunities for study, leisure time and so forth. In short, we felt it one way in which the transition from training to practice in *rural areas* could be successfully accomplished.

As mentioned before, it is of major importance to decide on what type of medicine one wants to practice. The problem is simple if the decision is made to enter either investigative medicine, which obviously must be done in association with a large Medical Center, or if one wished to do strictly general practice in rural communities. The problem becomes somewhat more complex when the type of medicine one wants to pursue falls between these two extremes which we believe to be a major trend.

We first decided on a general geographical area where we wished to live. Our next step was to decide on what population (on a theoretical basis alone), would support the type of practice we wished to do. Information is available from American Medical Association statistics on what size population can support an Internist, Obstetrician, Surgeon, etc. Another consideration was ready access to good hospitals with modern medical facilities, such as laboratory facilities, library, and a progressive Staff. Thirdly, we wished to choose an area where our families would be content to live.

We then sought information from two main sources attempting to find communities that might need additional medical personnel, as well as fulfill our desires, which were: (1) State Medical Societies, (2) Chambers of Commerce in twenty communities selected pretty much at random. It is hard to classify adequately the responses from these two sources. Three out of six State Medical Societies sent lists of communities and the names of people to contact. The other three referred us to the AMA in Chicago. Most of the communities listed from the States were extremely small (400 to 2,000 population) and the practice would be practical for one doctor at most. We did use, however, these lists as a rough guide to areas to be investigated. Information received from the Chambers of Commerce were as a rule enthusiastic and were good sources of general information; for example, town reports, etc.

We ended up covering all of two states in which we were particularly interested, paying special attention to twenty-five towns. In towns of a reasonable population,

we attempted to talk to the doctors, hospital administrators, pharmacists and some business personnel. In our experience, it was the rare physician who not only felt that there was need for additional personnel in the community, but who gave any encouragement whatsoever. There were three notable exceptions out of at least thirty physicians we talked to. Most physicians were usually very familiar with an area "just up the road apiece" that was in dire need of a doctor. As most areas in which we were interested had a doctor population ratio indicating need for more medical personnel, by even the most pessimistic figures, we felt that the physicians' attitude in many areas was somewhat unfortunate. As a guide as to where to practice, the point of view of the medical personnel in a particular community carried the least weight. It seemed obvious that this is the reverse of what the situation should be — as it is we doctors ourselves who ought to be able to give an objective opinion about the practice of medicine, as well as about treatment of a particular illness.

Conversely, the other sources we contacted in the towns invariably held the encouraging point of view and felt that there was indeed need for additional medical coverage in their areas.

Hospital administrators were extremely helpful and their information accurate. They, of course, could give us information concerning the chances of getting on the hospital staff, which, by the way, presented no problem in any locality into which we were inquiring. They also could answer all questions involving hospital facilities. In areas which were of interest to us, we were particularly interested in schools, population trends (increasing or decreasing) and town economy, such as industry, etc.

Our actual "canvassing" of these two states took us one month of concentrated effort. A few general impressions might be of interest. We found no area where there appeared to be too many doctors for the immediate population. Many communities have a good small hospital with adequate equipment, including laboratory facilities. Most small hospitals (30 to 85 beds) have inadequate library facilities.

We discussed our problem with the Executive Secretary of the Medical Society in one state who, among other things, is particularly interested in the problems of medical practice in that state. His statement, "Find a place you want to live and there put your ideas and efforts to work" influenced to a large degree our final decision.

Dermatological Survey of Hair and Scalp Conditions

(Clinical and Laboratory Observations) *

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Associate Professor, Harvard Medical School

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Cyril C. Sullivan, B.S., R.S.

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Prodromos N. Papas, M.D.

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The management of acute and chronic dermatitis of the scalp has during the past half century afforded the patient a wide variety of therapeutic agents unparalleled in medical history.

The present study was undertaken to determine the comparative therapeutic value of some of these agents as well as to assess the beneficial and toxic effects, if any, resulting from their sustained administration.

A total of 247 patients were employed in the evaluation and 349 product tests were conducted during an eight-month period. Three basic types of hair and scalp lotions were used.

Product A was an example of the lanolin-cholesterol (cream) emulsion variety. Product B served as an example of the petrolatum base (mineral oil) materials. Product C was of the alcohol base variety. Product D was essentially a placebo consisting mainly of colored water with a fragrance added. Product E was a duplicate of product C but with pilocarpine added. All products were "masked" in order that the procedures pertaining to the "blind-fold" method of product evaluation could be followed.

Procedures consisted of the examination of the subject's hair and scalp with a Woods light (3500 ang units) to determine areas, if any, of seborrhea oleosa, seborrhea sicca, alopecia, etc. The character of the hair also was under study, including its flexibility, brittleness, tendency to break.

Samples of hair were removed from the subject's scalp. The scalp was scraped to determine the bacterial and fungi flora of the hair and scalp.

This was done after a complete history was made on each subject. The history included name, age, sex, occupation, national background and color of the subject.

Family history (dermatological) was noted, including mother's hair coloring and type, father's hair coloring and type and whether baldness existed in the family history.

Patient's dermatological history included record of allergies, if any, hair coloring, type and texture; whether hair is oily, normal, dry; whether scalp is tight, normal, loose, dry; whether there is present itching, irritation, rash, flaking.

Grooming habits also were recorded, including types of brush and comb used. The types of shampoos employed and the frequency of shampooing also were noted. In addition, records were maintained of the hair preparations under study, the type of preparation, the patient's preference to the form of preparation and fragrance, as well as color preference.

Records were also kept of the length of time each patient spends indoors, outdoors and amount of time during which hats are worn.

Laboratory analysis consisted of microscopic examination of the hair shaft to determine internal or external fungi present. The diameter of the hair was measured to the nearest micron at the widest part of the hair. Tensile strength was determined and compared with the diameter of hair. This was reported in ounces and fractions.

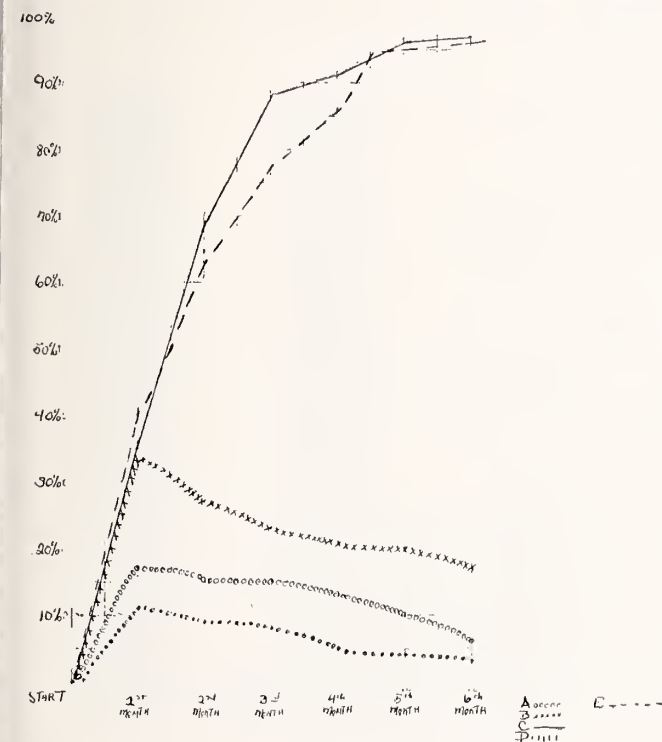
The scrapings from the scalp were plated on Sabouraud's maltose blood agar, together with the follicle end of the hair shaft. Plates were incubated for 21 days at 37° C.

Microscopic examination was made to determine the particular kind of fungi, molds, and bacteria present on subject's scalp and hair.

In addition to *Pityrosporum ovale*, yeast spores were found along with numerous other types of fungi. These fungi appear to thrive on the excretion of the subcutaneous

*From the Department of Dermatology, Bruschi Medical Center.

Reduction of Hair Loss of Patients



glands. The seborrheic dermatitis so produces the erythematous patches or scales which we know as dandruff.

Among subjects where samples of scalp scrapings and hairs have been taken, unidentified 4 oz. bottles of the various hair preparations were applied in accordance with verbal instructions corresponding to label instructions of the manufacturers.

After two weeks use, subject furnished attending physicians with verbal reports of his reactions to the product. A complete dermatological examination was made of the hair shafts and scrapings from the scalp.

Diameters were again measured and tensile strength was determined. Microscopic examinations were made to determine if growth of fungi was stopped and if any improvement in the character of the hair or scalp was noted.

A record was maintained of any keratolytic action noted, if a reduction of falling hair occurred, if there was an allergic response, the frequency of use of each product, and the effect of daily massage.

Identical samples of hair preparations used on human subjects were applied to the hair and skin of laboratory animals and similar determinations were made.

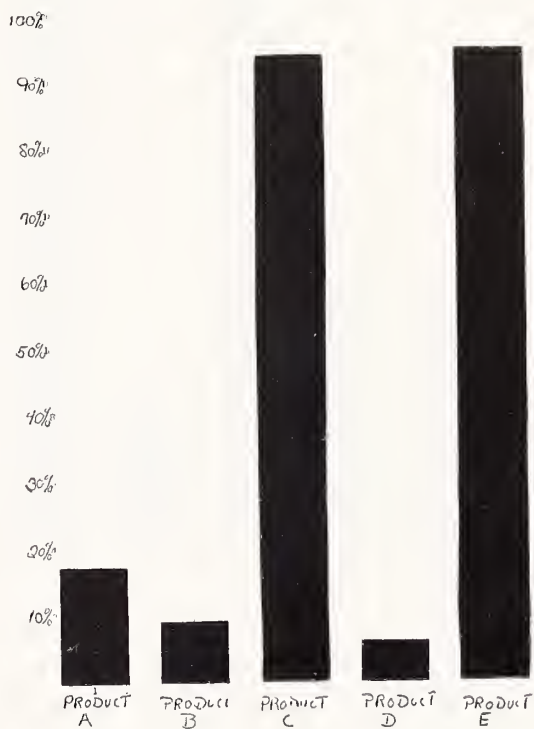
In addition, the epidermis of the animals was inoculated with virulent cultures of various fungi found on the human scalp. Then the hair preparations were applied to determine inhibition or destruction of the fungi. In this manner, the fungicidal properties of the various preparations were checked against infections taken from human hair and scalp as well as those pres-

Scalp Conditions

Product effectiveness following six months use on:

- 1—Scalp Itching. 2—Scalp Irritation. 3—Dandruff.

Bar represents composite total of three



ent on the laboratory animals and those grown on selective media in the laboratory.

The clinicians spent considerable time examining a scalp organ called the papilla from which new hair cells spring. The blood stream feeds the papillae.

Circulation which stimulates the proper flow of the blood stream to the scalp must be maintained at a maximum in order that the papillae be adequately and continuously nourished.

When the papillae become under-nourished due to poor circulation, new hair cells fail to multiply adequately. The hair roots consequently become weak and lack sufficient strength to produce hair.

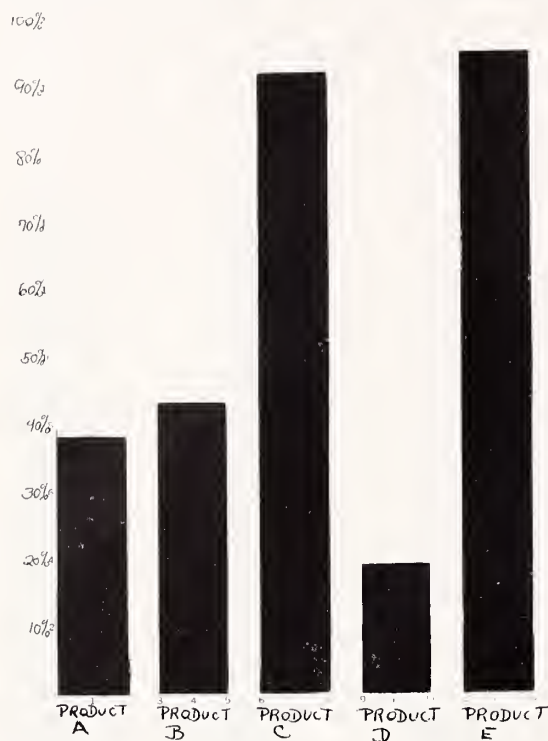
CONCLUSIONS

Definite evidence has been established that products C and E cause an increased flow of blood to the scalp. Measurements taken on a weekly basis showed that 94.3 per cent of the patients under study showed an increase of blood to the scalp following use of products C and E.

As a result, a marked decrease in "falling hair" was noted among 23 per cent of the cases using products C and E for five months or more. In 92 per cent of the cases under observation for five months, increased strength was noted among the papillae.

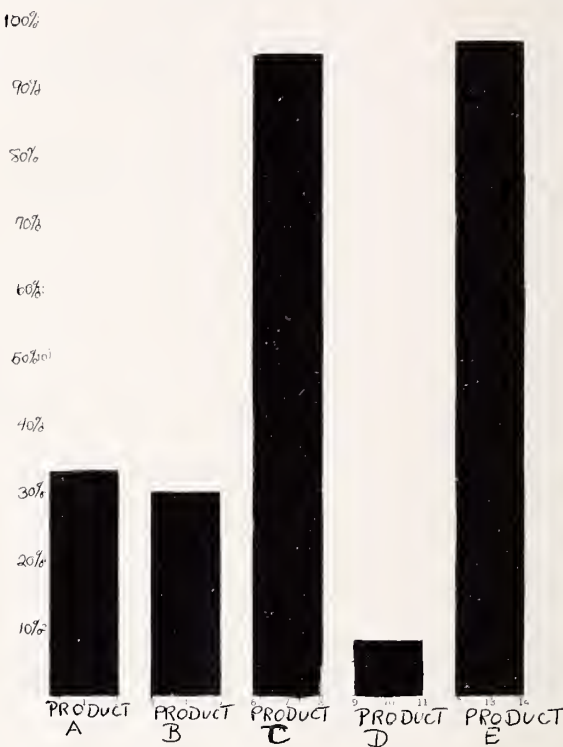
Grooming Qualities

Reference by Patients who used each product



Superiority Of Products

Evaluation of all factors under observation



Daily massage plus daily use of product C have been credited by the physicians for this improvement.

Most of the patients with excessive falling hair had suffered from this condition for an extensive period of time.

The increased flow of blood, which helps to aid and nourish hair growth, was attributed by the physicians to the alcohol in the amount present in product C.

The laboratory technicians said that work done on animals has reestablished this evidence.

Both clinical and laboratory evidence shows that the amount of alcohol present in products C and E is not drying to the scalp.

Additional evidence also shows that a marked improvement was noted in more than 91 per cent of the cases in the condition of the hair itself and the scalp. Dried up oils are removed by massage and the application of preparations C and E.

Proof has been established that oils present in products C and E supplement human oils lost in shampooing.

Positive evidence has been established on 97 per

cent of the cases that product C with massage does not produce dryness despite the alcoholic content of the product.

During a three-month period all patients under study washed their hair anywhere from seven times weekly to three times a week. None were allowed to wash their hair more than once daily and all had to shampoo at least twice in a seven-day period.

Those using Products C and E experienced no outward dryness or flaking after 90 days of this washing routine. A few now and then did complain of mild irritation, and the washing routine was halted temporarily.

The bacteria count remained at a minimum in 95.4 per cent of the cases using product C.

Product C proved 89 per cent effective in its effect on pityrosporum ovale. The sodium salicylate contained in the preparation proved to cause a keratolytic action dissolving dead tissue on this percentage of cases under study.

Products C and E supplied by Lucky Tiger Manufacturing Co., Kansas City, Mo.

Radioiodine as Test and Treatment in Thyroid Disease

STANLEY E. HERRICK, JR., M.D.
Director, Medical Radioisotopes Laboratory
Maine Medical Center

In recent years radioactive isotopes of iodine have been of increasing value as aids in the diagnosis of abnormal thyroid function and, in selected instances, as the treatment of choice for reduction of thyroid gland activity.

The radioisotope of iodine currently in use is designated I131. This is a fission product of uranium and is produced plentifully by the uranium pile reactor. A favorable characteristic of this isotope for diagnostic and therapeutic work is its half-life of approximately 8 days. Thus, in somewhat more than one week, one-half the energy to be emitted from each atom of I131 is exhausted. The energy is in the form of beta and gamma rays.

In the body economy, nearly all of the tissue concentration of iodine — stable or isotopic, since they are handled exactly alike — is attained in the thyroid gland. The degree of uptake by the thyroid gland depends upon its functional level of activity, as well as upon its state of "saturation" with iodine. Iodine is rather quickly turned over in the normal gland, and within a few days almost all of an ingested tracer dose of radio iodine appears in the urine. Little is excreted by other routes.

Applying these principles, for a number of years workers have successfully used isotopic iodine in the diagnosis and treatment of thyroid disease. At first confined to large university medical centers, its use is now commonplace in well-equipped community hospitals. For approximately two years, radioiodine has been in use at the Maine Medical Center. The results are briefly reviewed here.

DIAGNOSIS: To date approximately 300 I131 uptake tests have been performed. Analysis of our data suggests that the test is accurate in 90 to 95% of instances. This compares favorably with the accuracy of

any other known laboratory method of estimating thyroid function, but does not, perhaps exceed the accuracy of a very careful history and physical examination. In instances where excess iodine is already present in the tissues, the test is of little value. Therefore, requests for the study should be accompanied by pertinent data in the light of which results may be evaluated. There is no discomfort, and little inconvenience, to the patient. Normally in 24 hours the thyroid gland takes up 10% to 50% of an ingested tracer dose of radioiodine, with most of the values obtained from normal subjects lying between 15% and 45%.

TREATMENT: Because of the destructive power of beta rays, which travel only a few millimeters, I131 is capable, in millicurie doses, of "removing" thyroid tissue without significant damage to surrounding tissues. Although indications for the use of this method appear to be expanding, patients usually selected for treatment are in the following groups: (1) Those of age 45 or more with diffuse hyperplastic goiter. (2) Those who refuse or cannot tolerate surgery. (3) Those with recurrences of disease following surgery. In addition, with much larger doses of radioiodine usually necessary, the medication is given to euthyroid patients for whom reduction of thyroid function to subnormal levels might be beneficial. The therapy is attended by few side effects, and usually hospitalization is not required. A theoretical carcinogenic danger has not, in practice, developed into fact over a period of 15 years observation. To the present 6 patients with hyperthyroidism have been treated at the Maine Medical Center. Dr. Belton A. Burrows of Boston has been our consultant in this work. Patients observed for a sufficient length of time have shown satisfactory response, re-treatment being required in one instance. Based upon many large series reported elsewhere, an increasingly successful use of radioiodine in therapy may be anticipated here.

Trimalleolar Fracture

H. CARL AMREIN, M.D.
Skowhegan, Maine

CASE SUMMARY

I am presenting this case not as a great lesson in treatment of trimalleolar fractures but rather as a stimulus to the discussion of immediate treatment of trimalleolar fractures.

This is a report of a 56-year-old white male whose chief complaint was pain and deformity of the right forearm and deformity and swelling of the left ankle.

Present illness: This man's sleeve was caught in an overhead shaft in the mill where he was working. His right arm was wrapped around the shaft and he was thrown into the so-called "kicker machine," and received a severe blow on the left ankle before the machinery was stopped.

The resulting injuries were fracture of the right ulna, which is not pertinent to our discussion this morning, and a fracture of the left ankle which I would like to discuss. The left ankle shows a fracture of the internal malleolus with displacement and twisting, while there is an acute angulation of the external malleolus at the lower end of the fibula. Closed reduction was attempted without success. Patient was then taken to surgery and open reduction was carried out. A medial incision was made along the posterior lateral border of the lower end of the tibia, curved around the malleolus, and extended to the base of the metatarsal.

It was found that the internal malleolus was completely reversed in position but it was still firmly attached to the deltoid ligament and was completely separated from the tibia. The hallicus longus tendon had slipped between the fractured malleolus and the tibia making it impossible to reduce by closed manipulation. The hallicus longus tendon was placed in its normal position and the malleolus, which was attached to the deltoid ligament, was screwed firmly to its proper place on the tibia by using a screw $2\frac{1}{2}$ inches long. Soft tissue structures were then repaired over the malleolus and the skin was approximated. The lateral aspect of the ankle joint was then opened using a similar approach. It was found that the tibial-fibular

ligament was still intact but in order to insure a tight joint mortise, a screw was put through the external malleolus, in such manner as to avoid the joint but to tighten the fibula against the tibia and maintain a good joint mortise. This screw extended through the anterior cortex of the tibia about 2 mm. and was easily palpable under the skin. There was only a small chip on the posterior malleolus and no attempt was made to secure this by internal fixation.

The night of the operation this patient, under the influence of medication, got out of bed, walked around the bed and out into the hall. X-rays in the morning showed no damage to the reduced ankle. Plaster was not applied in this instance. The ankle was kept in dorsi-flexion by posterior splint only and several times a day he was encouraged to put his ankle through complete range of motion. At no time did the patient have swelling of the ankle joint and pain was at a minimum. The screw that extends through the cortex anteriorly has not caused him any difficulty.

Three months following the reduction, this patient was bearing weight without swelling. He had full extension of the ankle joint with 10° loss of dorsi-flexion. In five months, he was walking without a limp, no pain, no swelling, and his only loss of motion is 5° of dorsi-flexion. The screw extending through the anterior cortex has caused him no difficulty and he wishes this left in place.

All of us are familiar with the difficulties of holding a trimalleolar fracture in position by closed reduction. Some men put on long-leg casts; however, all closed reductions with the application of plaster necessitate some fusion of the ankle joint and all of us have had the experience of examining X-rays two to four weeks after the application of such devices only to find that the reduction has not held.

I believe the method presented of using two screws has advantages over the old bolt technique, as one avoids the possibility of erosion from pressure from a bolt that has been tightened too much.

Program

103rd Annual Session

Maine Medical Association

Sunday - Monday - Tuesday

JUNE 24, 25, 26 — 1956

Hotel Samoset

Rockland, Maine



Program Arranged by the Scientific Committee



FRANCIS H. SLEEPER, M.D.
Chairman

Information

Registration:

Registration Headquarters throughout the Session will be in the Lobby at The Samoset.

Sunday, June 24 - 9:00 A.M. to 5:30 P.M.

Monday, June 25 - 8:00 A.M. to 5:30 P.M.

Tuesday, June 26 - 9:00 A.M. to 5:30 P.M.

Papers:

All papers read before this Association will be its property for publication in The Journal of the Maine Medical Association and when read shall be deposited with the Secretary, Esther M. Kennard.

Visiting Delegates:

Introduction of Visiting Delegates will take place at the General Assembly, Monday afternoon, June 25 at 4:00 P.M.

Technical Exhibits:

A list of Exhibiting Companies and representatives is published in this issue of The Journal. Save your orders for the Exhibitors at this Annual Session.

Door Prize:

A door prize will be presented with the compliments of Smith, Kline & French Laboratories. Don't fail to get your ticket at the Association's Registration desk. This prize will be awarded at the Clam Bake on Tuesday, June 26.

Educational Exhibits:

Maine Cancer Society
Maine Heart Association
Maine Tuberculosis Association
American Medical Association Exhibit on Alcoholism
Maine State Police "Alcometer"
American Academy of General Practice
Family Physician-Everyday Psychiatrist

Out-of-State Delegates

Connecticut State Medical Society

Norman H. Gardner, M.D., East Hampton
Stanley B. Weld, M.D., Hartford

Massachusetts Medical Society

Edwin T. Wyman, M.D., Boston

New Hampshire Medical Society

W. Edmour Precourt, M.D., Somersworth

Rhode Island Medical Society

Peter C. H. Erinakes, M.D., West Warwick
Russell P. Hagar, M.D., Edgewood

Vermont State Medical Society

Roger Mann, M.D., Jeffersonville

Sunday, June 24

9:00 A.M.

Registration

10:00 A.M.

Invocation

J. Walter McFarlane, Pastor

St. Charles Church, Brunswick, Maine

First Meeting of the House of Delegates

Armand Albert, M.D., President-elect presiding

Luncheon

12:30 P.M.

2:00 P.M.

Reference Committee meetings

6:30 P.M.

Dinner:

SPEAKER:

MR. SAMUEL H. RAMSEY

Humorist and Inspirational
Speaker

Subject: Human Relations
Is Your Business



Monday, June 25

9:00 A.M.

Invocation

Rabbi David Berant

Congregation Beth Jacob, Lewiston, Maine
Second Meeting of the House of Delegates

Armand Albert, M.D., President-elect, presiding

11:00 A.M.

Scientific Session

Presiding — **Lloyd Brown, M.D.**, Bangor



SPEAKER:

JOE V. MEIGS, M.D.

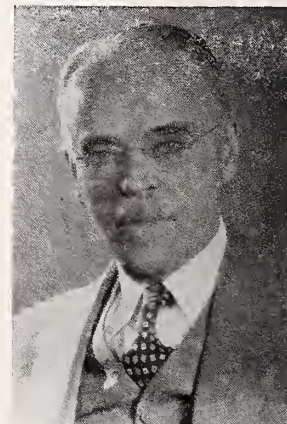
Dr. Meigs is Clinical Professor of Gynecology, Harvard Medical School. Dr. Meigs, who has had thirty-five years of practice, will present an informal discussion of The Things I Have Learned In Gynecological Practice.

11:45 A.M.

Presiding — **Eugene H. Drake, M.D.**, Portland, Maine

SPEAKER: PAUL D. WHITE, M.D.

Consultant, Massachusetts General Hospital, Boston; Executive Director, National Advisory Heart Council; President, International Society of Cardiology. Dr. White's subject will be The Ways Of Life And Heart Disease.

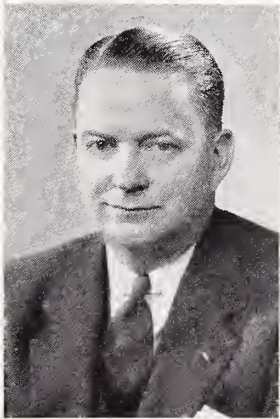


12:30 P.M.
Visit Technical Exhibits

1:00 P.M.

Luncheon
Luncheon Meeting: Annual Meeting — Maine Heart Association
Speaker: Paul D. White, M.D.

2:00 P.M.
Symposium on Rehabilitation
Presiding — **Edward G. Asherman, M.D.,** Portland
MODERATOR: HOWARD A. RUSK, M.D.



Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York University — Bellevue Medical Center; Associate Editor, The New York Times.

Participants:
Lawrence Crane, M.D., Portland Orthopedics
Ralf Martin, M.D., Portland Cardiology
Nicholas Fish, M.D., Portland Psychiatry
Joseph H. Giesen, M.D., Waterville Physical Therapy

4:00 P.M.
General Assembly
Presiding — **Martyn A. Vickers, M.D.,** President
Order of Business:
Election of President-Elect
Introduction of Visiting Out-of-State Delegates
President, Maine Dental Society
President, Maine Pharmaceutical Association
Presentation of Honorary Pins

5:00 P.M.
Visit Technical Exhibits

6:30 P.M.
Cocktail Party — Annual Banquet
Cocktail Party sponsored by Pfizer Laboratories, Division of Chas. Pfizer & Company
President's Address: **Martyn A. Vickers, M.D.**

SPEAKER: MR. JAMES M. ROGERS



Assistant to the President of the Ingersoll Milling Machine Company, Rockford, Illinois
Subject:
Two Ways To Slavery

Tuesday, June 26

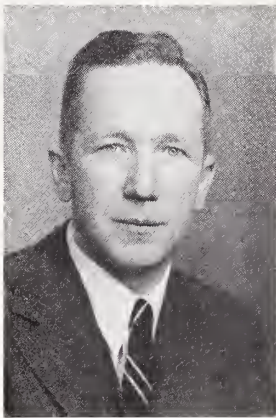
9:00 A.M.
County Secretaries Breakfast

10:00 A.M.
Invocation
Reverend E. Roy Burchell
First Congregational Church, Camden, Maine

10:15 A.M.
Maine Medico Legal Society Annual Meeting
Reports of Officers
Remarks by President James B. Perkins, Lincoln County Attorney
Remarks by Attorney General Frank Harding of Maine
Remarks by Joseph Holman, President, County Attorneys Association
Election of Officers

10:15 A.M.
Scientific Session
Presiding — **John R. Lincoln, M.D.,** Portland

SPEAKER: CURTISS B. HICKCOX, M.D.



Associate Anesthesiologist, Hartford Hospital, Hartford, Connecticut, and Secretary, American Board of Anesthesiologists.
Subject: Modern Concepts Of Oxygen Therapy

11:00 A.M.
Presiding — **Francis H. Sleeper, M.D.,** Augusta
SPEAKER: LAUREN H. SMITH, M.D.



Physician-in-Charge and Administrator, Department of Nervous and Mental Diseases, Pennsylvania Hospital, Philadelphia, Pennsylvania. Dr. Smith's subject will be The Critical Evaluation Of Somatic Therapy In Psychiatry.

11:45 A.M.

Presiding — **Richard C. Wadsworth, M.D.**, Bangor**SPEAKER: RICHARD D. BRASFIELD, M.D.**

Surgeon, Pack Medical Group, and Memorial Cancer Center, New York, N. Y. Dr. Brasfield's subject is Total Right Hepatic Lobectomy — a film in sound and color.



12:30 P.M.

Visit Technical Exhibits

1:00 P.M.

Luncheon

2:00 P.M.

Maine Medico-Legal Society

Presiding — **President James B. Perkins**Introduction of Guests — **Martyn A. Vickers, M.D.**, President, Maine Medical Association**Daniel F. Hanley, M.D.**, Executive Director
Maine Medical Association**Col. Robert Marx**, Chief of State Police**SPEAKER: ALAN R. MORITZ, M.D.**

Professor of Pathology and Director of the Institute of Pathology, Western Reserve School of Medicine, Cleveland, Ohio.

Dr. Moritz's subject will be Death Resulting From Clinically Unsuspected Violence. An address with pictures.

2:00 P.M.

Meetings of Specialty Groups

Maine Society of Anesthesiologists

Presiding — **Clement S. Dwyer, M.D.**, PresidentProblems in Clinical Anesthesia
Curtiss B. Hickeox, M.D.

Maine Cancer Society

Presiding — **Irving I. Goodof, M.D.**, President
Program to be announced.

Maine Heart Association Clinical Program

Presiding — **Elton R. Blaisdell, M.D.**, Chairman Board of DirectorsThe Bedside Evaluation of the Atherosclerotic Limb
Thomas H. Palmer, M.D., BangorReconstructive Arterial Surgery
C. Philip Lape, M.D., PortlandPresent Status of Anticoagulant Therapy
George J. Robertson, M.D., Waterville

Report on Research Projects — Serum Electrophoresis in Cardiovascular Diseases

Milan A. Chapin, M.D., Lewiston**Irving I. Goodof, M.D.**, Waterville

State of Maine Department of Maternal and Child Welfare

Presiding — **Alice A. S. Whittier, M.D.**Differential Diagnosis of Jaundice in Children
Sidney S. Gillis, M.D.

Maine Radiological Society

Presiding — **G. E. C. Logan, M.D.**, President

Problems in Pediatric Chest Diseases

Edward B. D. Neuhauser, M.D., Chief of Radiology, Children's Medical Center, Boston; Assistant Professor Radiology, Harvard University Medical School

Maine Trauma Committee — American College of Surgeons

An Unusual Industrial Burn Case

Niles L. Perkins, Jr., M.D., Rumford

A Problem Involving Femoral Pathology

Paul R. Beegle, M.D., Auburn

A Survival Case of Tetanus

Ronald A. Bettie, M.D., Brunswick

Difficulties Encountered in a Traumatic Hip

Joseph H. Giesen, M.D., Waterville

The Physiology of Posture With Respect to Surgical and Traumatic Patients

Ralph M. Timberlake, Jr., M.D., Lewiston

A Method Of Treating Badly Comminuted Colles Fractures

Paul R. Beegle, M.D., Auburn

Speakers limited to 15 minutes followed by a Brief Discussion

Cocktail Party for Members and their guests.

Maine Trudeau Society

Presiding — **George W. Wood, III**, Bangor, President
Pulmonary Emphysema, an Everyday Problem in Treatment**Julius Lane Wilson, M.D.**

6:30 P.M.

Clam Bake

SPECIAL NOTICES

Golf Tournament

Francis A. Winchenbach, M.D., Bath ,Chairman



Election of President-Elect

The election of a President-Elect will take place at the General Assembly, Monday, June 25th, at 4:00 P.M.



Election of Councilors

Election of Councilors for the following Districts will take place at the Second Meeting of the House of Delegates on Monday, June 25th, at 9:00 A.M.

Third District

(Knox, Lincoln-Sagadahoc)

Fourth District

(Kennebec, Somerset, Waldo)



Maine Eye Group

There will be a meeting of the Maine Eye Group on Monday, June 25, at 10:00 A.M.



Honorary Medals

Presentation of the Association's Honorary Medals will be made by Dr. Martyn A. Vickers, President, at the General Assembly, Monday afternoon, June 25th, at 4:00 o'clock.



Fifty-Year Pins

Fifty-Year Lapel Pins will be presented to the following members who were graduated from Medical School in 1906:

Androscoggin County

Leopold O. Roy, M.D., Lewiston

Kennebec County

Edward H. Risley, M.D., Waterville

Lincoln-Sagadahoc County

Harris C. Barrows, M.D., Boothbay Harbor

Waldo County

George W. Holmes, M.D., Belfast



Fifty-Five Year Pins

The following members who received their Fifty-Year Medals in June, 1951, will receive Fifty-Five Year Pins:

Cumberland County

Luther A. Brown, M.D., Portland

Harris B. Haskell, M.D., Portland

Fred P. Webster, M.D., Portland

Oxford County

Raymond R. Tibbetts, M.D., Bethel

York County

Ansel S. Davis, M.D., Springvale

Clarence F. Kendall, M.D., Biddeford



Sixty-Year Pins

Sixty-Year Pins will be presented to the following members who received their Fifty-Year Medals in 1946:

Cumberland County

Thomas Tetreau, M.D., Portland

Somerset County

Walter S. Stinchfield, M.D., Skowhegan

COUNTY DELEGATES — 1956

FIRST DISTRICT

Cumberland County Medical Society*Delegates:*

Saul R. Polisner, M.D., 143 Vaughan St., Portland
 Barron F. McIntire, Jr., M.D., 13 W. Elm St., Yarmouth
 Clifford W. Gates, M.D., Gorham
 Francis X. Mack, M.D., 144 State St., Portland 3
 Daniel F. Hanley, M.D., 58 Federal St., Brunswick
 Philip P. Thompson, Jr., M.D., 704 Congress St., Portland
 Alvin A. Morrison, M.D., 57 Deering St., Portland
 Albert Aranson, M.D., 39 Deering St., Portland
 Albert C. Johnson, M.D., 45 Deering St., Portland

Alternates:

C. Philip Lape, M.D., 131 Chadwick St., Portland
 Daniel P. Storer, M.D., 12 Deering St., Portland
 Joseph B. Earnhardt, M.D., 55 Stroudwater St., Westbrook
 Philip S. Fogg, Jr., M.D., 27 Deering St., Portland
 Paul C. Marston, M.D., Kezar Falls
 Ralph A. Getchell, M.D., 690 Congress St., Portland
 Benjamin Zolov, M.D., 296 Congress St., Portland
 Norman E. Dyhrberg, M.D., Cumberland Mills
 Paul Maier, M.D., 723 Congress St., Portland

York County Medical Society*Delegates:*

Paul S. Hill, M.D., 176 Main St., Saco
 James H. Macdonald, M.D., 103 Main St., Kennebunk
 Carl E. Richards, M.D., 34 Winter St., Sanford

Alternates:

William T. Roussin, M.D., 48 Bacon St., Biddeford
 Melvin Bacon, M.D., 206 Main St., Sanford
 Roger J. P. Robert, M.D., 331 Main St., Saco

SECOND DISTRICT

Androscoggin County Medical Society*Delegates:*

Otis B. Tibbetts, M.D., 33 Court St., Auburn
 Daniel R. Shields, M.D., 369 Main St., Lewiston
 Ralph A. Goodwin, Sr., M.D., 56 Denison St., Auburn
 Romeo A. Beliveau, M.D., 89 Pine St., Lewiston

Alternates:

Paul J. LaFlamme, M.D., 78 Pine St., Lewiston
 William V. Cox, M.D., 133 Court St., Auburn
 Ralph A. Zanca, M.D., 405 Center St., Auburn
 Vincent H. Beeaker, M.D., 85 Wood St., Lewiston

Franklin County Medical Society*Delegate:*

Philip B. Chase, M.D., 36 Main St., Farmington

Alternate:

Currier C. Weymouth, M.D., 83 Main St., Farmington

Oxford County Medical Society*Delegates:*

James A. MacDougall, M.D., 303 Penobscot St., Rumford
 Albert P. Royal, M.D., 82 Maine Ave., Rumford

Alternates:

Walter G. Dixon, M.D., 16 Deering St., Norway
 David S. Broughton, M.D., 18 Hartford Ave., Rumford

THIRD DISTRICT

Knox County Medical Society*Delegates:*

Robert L. Allen, M.D., 37 Spring St., Rockland
 Ralph P. Earle, M.D., Vinalhaven

Alternates:

Edward K. Morse, M.D., 22 White St., Rockland
 William A. McLellan, M.D., 2 Union St., Camden

Lincoln-Sagadahoc County Medical Society*Delegates:*

John F. Dougherty, M.D., 112 Front St., Bath
 John F. Andrews, M.D., 20 West St., Boothbay Harbor

Alternate:

Arthur A. Nichols, M.D., Edgecomb

FOURTH DISTRICT

Kennebec County Medical Society*Delegates:*

Charles E. Towne, M.D., 50 Main St., Waterville
 Wilson H. McWethy, M.D., 31 Western Ave., Augusta
 Loring W. Pratt, M.D., 177 Main St., Waterville
 Frank B. Bull, M.D., 72 Church St., Gardiner
 Allan J. Stinchfield, M.D., 6 Warren St., Hallowell

Alternates:

George W. Robertson, M.D., 33 College Ave., Waterville
 Ivan E. McLaughlin, M.D., 345 Water St., Gardiner
 Arnold W. Moore, M.D., State Hospital, Augusta
 Leon D. Herring, M.D., 1 Western Ave., Winthrop
 Richard H. Dennis, M.D., 33 College Ave., Waterville

Somerset County Medical Society*Delegate:*

George E. Sullivan, M.D., R.F.D. No. 1, Fairfield

Alternate:

Howard L. Reed, M.D., 235 Madison Ave., Skowhegan

Waldo County Medical Society*Delegate:*

Seth H. Read, 15 Church St., Belfast

Alternate:

John A. Caswell, M.D., 16 Waldo Ave., Belfast

FIFTH DISTRICT

Hancock County Medical Society*Delegates:*

James H. Crowe, M.D., 121 Main St., Ellsworth
 Marcus A. Torrey, M.D., 75 State St., Ellsworth

Alternates:

Philip L. Gray, M.D., Blue Hill
 W. Edward Thegen, M.D., Elm St., Bucksport

Washington County Medical Society*Delegate:*

John T. Metcalf, M.D., Calais

Alternate:

Oscar F. Larson, M.D., Machias

SIXTH DISTRICT

Aroostook County Medical Society*Delegates:*

Robert M. Gabrielson, M.D., 18 Sweden St., Caribou
 Harry M. Helfrich, M.D., 555 Main St., Presque Isle
 Robert A. Graves, M.D., 3 Green St., Fort Fairfield

Alternates:

Clyde I. Swett, M.D., 18 Sherman St., Island Falls
 Philip Pines, M.D., Maine St., Limestone
 Melvin R. Aungst, M.D., Morneau Building, Fort Kent

Penobscot County Medical Society*Delegates:*

Robert J. Barrett, Jr., M.D., 209 State St., Bangor
 Wilbur B. Manter, M.D., 1 Fern St., Bangor
 Richard C. Wadsworth, M.D., 489 State St., Bangor
 Jay K. Osler, M.D., 74 Birch St., Bangor
 Leonard G. Miragliuolo, M.D., 10 Maple St., Bangor

Alternates:

Arthur N. Lieberman, M.D., 180 Broadway, Bangor
 Eugene E. Brown, M.D., 276 State St., Bangor
 Wilfred I. Butterfield, M.D., 119 Main St., Lincoln
 Hans Weisz, M.D., 196 Main St., Lincoln
 Hans Shurman, M.D., 10 Spring St., Dexter

Piscataquis County Medical Society*Delegate:*

Ralph C. Stuart, M.D., Guilford

Alternate:

Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft

PROGRAM

Woman's Auxiliary
to the
Maine Medical Association
Eighth Annual Convention
June 24, 25, 26, 1956
The Samoset, Rockland, Maine

Sunday, June 24

1:00-5:00 P.M. — Registration
5:00 to 6:00 P.M. — Cocktail hour for auxiliary
members and husbands.

Monday, June 25

9:00 A.M.-12:30 P.M. 2:00-5:00 P.M. — Registration
The day is free for recreational and personal activities.

Tuesday, June 26

9:00 A.M.-12:30 P.M. 2:00-4:30 P.M. — Registration
10:00 A.M. — Executive Board Meeting
10:30 A.M. — Annual Meeting
1:00 P.M. — Annual Luncheon

Presiding, Mrs. Dexter J. Clough, 2nd, Bangor,
President, Womans Auxiliary to the Maine
Medical Association

Speaker: Mrs. Erwin Tracy, Chairman, National
Committee on Public Relations

Evening Programs

See the Maine Medical Association Program
on preceding pages.

COMMITTEES

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Mrs. Waldo A. Clapp
Mrs. James W. Reed
Mrs. Maynard B. Colley
Mrs. Frank W. Barden
Mrs. Edward G. Asherman
Mrs. Martyn A. Vickers

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Mrs. Edward L. Foote, Chairman
Mrs. Merrill S. F. Greene
Mrs. Paul A. Fichtner
Mrs. Philip B. Chase
Mrs. Armand Albert
Mrs. Allan J. Stinchfield
Mrs. Andre Fergus
Mrs. John S. Houlihan
Mrs. Robert J. Barrett, Jr.

Local Arrangements

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Mrs. Robert L. Allen
Mrs. Edward K. Morse

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ice

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Mr. John J. Martocci, Convention Manager

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Across The Desk

Fee Schedule for V.A.

VA's Department of Medicine and Surgery now has fee schedule agreements with twenty-five state medical societies for outpatient care of beneficiaries. In nine other states, the agreement is made with the state Blue Shield plan, which acts as an intermediary for billings and collections. In states where no agreement is in force, the Catalog No. 5 Guide for Charges for Medical Services is used by VA field stations in making compensation for fee-basis medical care.

William C. Burrage, M.D., Chairman of the Veterans Affairs Committee of the Maine Medical Association, writes that his committee has requested approval of the following changes in the fee schedule in the new contract with the Veterans Administration — to be effective July 1, 1956.

0013 — Daytime office visits to non-specialists be raised to \$4.00.

0015 — Any home or hospital visit be raised to \$5.00.

0017 — Night home and hospitals visits be raised to \$7.00.

0048, 0051, 0052, 0056 — That daytime office re-visits to specialists be raised to \$5.00. (Eye, ear, nose, throat, skin and other qualified specialists.)

9107 - A — Fluroscopy when required without film \$7.00.

Cardiac catheterization \$50.00.

9133 — Urethrocystography \$25.00.

Osteopaths in the Armed Services

Without debate, the Senate on May 21, 1956, unanimously passed H.R. 483, giving permissive authority for commissioning of osteopaths in the Military Medical Corps. Since last July, the Maine Medical Association among others, has made its stand on this bill very clear to all members of the Maine delegation. In spite of this, not one of the members of Congress of Maine raised a voice against this bill. The final outcome is not yet clear, however. Leaders of the House Armed Services Committee are undecided whether to ask for a joint conference on amendments which the Senate made in the House-passed bill or to recommend

concurrence in the Senate version. The amendments to the bill are two:

1. Introduced by Margaret Chase Smith (R, Me.), in effect states that only those osteopaths may be commissioned who have equal educational background with Doctors of Medicine.

2. An amendment introduced by Senator Russell (D, Ga.), which in effect states that only those osteopaths may be commissioned who are acceptable to the Surgeons General.

Since no osteopath has equal educational background

Continued on page 182

ACHROMYCIN

Tetracycline *Lederle*

in the treatment of **infections in surgery**

The prevention and control of cellulitis, abscess formation, and generalized sepsis has become commonplace technique in surgery since ACHROMYCIN has been available. Leading investigators have documented such findings in the literature.

For example, Albertson and Trout¹ have reported successful results with tetracycline (ACHROMYCIN) in diverticulitis, gangrene of the gall bladder, tubo-ovarian abscess, and retropharyngeal abscess. Prigot and his associates² used tetracycline in successfully treating patients with subcutaneous abscesses, cellulitis, carbuncles, infected lacerations, and other conditions.

As a prophylactic and as a therapeutic, ACHROMYCIN has shown its great worth to surgeons, as well as to internists, obstetricians, and physicians in every branch of medicine. This modern antibiotic offers rapid diffusion and penetration, quick development of effective blood levels, prompt control over a wide range of organisms, minimal side effects. There are 21 dosage forms to suit every need, every patient, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Broad-range antibiotic action to fight infection; important vitamins to help speed normal recovery. In *dry-filled, sealed* capsules for rapid and complete absorption, elimination of aftertaste.



¹Albertson, H.A. and Trout, H. H., Jr.: *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N.Y., 1955, pp. 599-602.

²Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid.*, pp. 603-607.



LEDERLE LABORATORIES DIVISION
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PEARL RIVER, NEW YORK

* REG. U.S. PAT. OFF.

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AT DUSK, F.11, 4/100 SEC., FAST PAN FILM



ACHROMYCIN ACHROMYCIN

Across The Desk

Continued from page 179

with an MD, and since none are acceptable to the Surgeons General, none will be drafted under this bill.

It will be most interesting to watch the action of the House of Representatives on these two amendments.

Disability Freeze

In recent months many physicians have heard from patients about the disability freeze provision in the social security law. This provision, added to the old-age and survivors insurance program in 1954, permits people who have prolonged total disability to apply to have their social security records frozen for the period of their disability. Thus, the time when they could not work and so had no earnings credited to the social security accounts does not count against them in determining their rights to benefits, nor the amount of benefits which will be payable to them at age sixty-five, or to their families in case they should die.

Before a worker's social security record can be frozen, he has to meet certain work requirements. His social security record up to the time of his disability must show that he was in fact a worker, with a fairly regular and recent work history. In addition, he must be shown to have a medically determinable physical or mental impairment severe enough to keep him from engaging in any substantial gainful activity — one which has existed for more than six months, and is expected to last indefinitely or end in his death.

SECURING THE MEDICAL EVIDENCE OF DISABILITY

The medical evidence needed to establish the nature and severity of the applicant's disability, the date it began, and its prognosis comes from the doctor who has treated the worker and knows his case, or the hospital or institution in which the worker has been confined. A Medical Report form was designed to assist the physician in furnishing the needed medical evidence and to indicate the nature and extent of clinical detail which would be necessary. It is given to the applicant for the "disability freeze" and he is asked to have it filled out by the physician most familiar with his impairment. The form itself is modeled closely after the medical report used by major life insurance companies in their disability claims work. In adapting it for use in the "freeze" program, the recommendations of a Medical Advisory Committee were closely followed. This Committee, composed of well qualified representatives of the medical and related non-medical professions, gives ad-

vice and guidance to the Social Security Administration on the medical aspects of the "disability freeze" program.

If you have received this medical form to fill out for any of your patients, you are probably aware that the law makes the disabled worker responsible for seeing that medical evidence is submitted for him and for paying any costs involved. The law does not permit the Government to pay any costs in connection with securing the medical evidence needed for a determination of disability. You may also know that to insure the confidentiality of the medical evidence, the medical report form is not to be returned to the patient, but is to be mailed by the physician direct to the local social security office. This office, incidentally, is ready to furnish additional information to the physician concerning the medical report form and the operation of the disability freeze.

DETERMINING DISABILITY

Determinations as to disability based on the evidence submitted are made under an agreement with the Federal Government, by professional members of an agency of the State in which the applicant resides. In most States, this is the vocational rehabilitation agency. Since referral of disabled individuals for any rehabilitative services which might return them to gainful work is an important aspect of the program, each person applying for the social security disability freeze is told about the availability of vocational rehabilitation services.

On the professional team in the State agency at least one member is a doctor of medicine. The team re-

views and evaluates all medical evidence assembled in the applicants file, as well as such non-medical factors as age, education and occupational experience. Certain medical guides and standards, worked out with the advice of the Medical Advisory Committee are used in the consideration of the medical evidence. But, although these guides and standards can be applied in most cases, they are not rigid and arbitrary. The final determination in each case is based on all the available facts on the individual's impairment and vocational history, and, there is consultation among physicians in any borderline situation.

Continued on page 192

Standing Committee Reports—1955-56

Legislative Committee

To the Officers and Members of the Maine Medical Association: Due to the fact that our state legislature did not convene this year, the activities of the committee have been directed primarily to national legislation in regard to bills pertaining to the health and welfare of the people, and measures directly affecting the medical profession as a whole. This committee considers it essential for us to concern ourselves with both state and national health matters.

A brief report was made at the interim meeting of the Maine Medical Association House of Delegates held on Sunday, April 8th at Bangor. The committee recommended that an able attorney be retained during a legislative session to assist the Executive Director of the Maine Medical Association in keeping abreast with legislative matters concerning health bills. Furthermore, it is absolutely essential that this attorney be available to advise and help direct the efforts of the Director and the committee on legislation, in their efforts to promote or oppose bills as concerns the medical association as is deemed necessary.

The present status of some of the bills under consideration in Congress was briefly stated, such as H. R. 7225. A warning was sounded to be on the alert for bills to be introduced in future sessions of the Maine Legislature, arising from recommendations made in the Discussion Draft of proposed Model Workmen's Compensation Law Prepared by U. S. Department of Labor.

The Chairman of the committee attended the Regional Legislative Conference of the Committee on Legislation of the American Medical Association held in New York City on October 29, 1955. These conferences are held every two years and are primarily informative. The American Medical Association Committee brings up problems and the proposed legislation due to come up in current sessions of Congress. Every effort is made to clearly state all the facts concerning a bill under discussion, before the position of the committee is announced. The various members of the state societies attending the conference are given an opportunity to state their opinions and attitudes about the various subjects as well as an opportunity to present any resolutions made by their respective societies. Dr. David Allman, in his opening remarks, so ably stated that the success of the committee depends upon a triangle of cooperation. At one apex is the Committee on Legislation. At one apex is the Washington Office.

At one apex is the individual physician. We must have all three work together intelligently, if we are to succeed.

A brief statement of the topics discussed at the meeting are as follows:

Reinsurance and Government Guaranteed Loans.

The position is taken that with respect to both reinsurance and government guaranteed loans, that a need for federal intervention has not been shown. In both instances, the premise upon which the government is proceeding is in error. In addition the mechanism suggested would be ineffective and both proposals are against public policies.

Medicine and the Treaty Powers.

The American Medical Association supports the principle of a constitutional amendment designed to confine the Treaty Powers of the President within its proper bounds.

Veterans Medical Care.

The position of the American Medical Association on this very important subject was clearly stated and the many reasons were given in justification of its stand. There is no change in the policy regarding veterans care.

Tax Deferment Retirement Plans.

The Jenkins-Keogh bills were discussed and the advantages of such measures outlined. It is conceded that active work by local and national groups are needed to push this bill. It is very unlikely to ever pass.

Military Medicine.

Discussion limited to four topics.

- 1) The Commission of Osteopaths in the armed forces.
Definitely opposed.
- 2) Extension of Doctors Draft Law.
Opposed to any extension.
- 3) Career Incentive.
Actively supports career incentive legislation for Medical officers.
- 4) Dependent Medical Care.
Opposed to bills now pending in Congress, all of which in general follow the recommendations of the Moulton Commission. However, the association believes that such care if authorized should be provided by civilian physicians in civilian facilities, except in overseas areas.

Federal Aid to Medical Education.

The position of the American Medical Association is one of active opposition to S 434 which provides a continuing operational subsidy, and one of active support of S 1323 which provides matching funds for construction. There is always the danger of federal regulation and control when a project is subsidized by the federal government. One of the pitfalls that we must avoid is federal control of medical education.

Notes on other Legislation.

The afternoon session was devoted to informal discussions of various bills, and there was more active participation from the floor. It was more like a round table conference with everyone taking part. The proposed legislation on handling the Salk Poliomyelitis Vaccine was reviewed up to the passing of Public Law 377. Bill H. R. 7225 was thoroughly reviewed and the position of the association stated. The changes already made in the original law have not been completely clarified and the association is definitely opposed to any change at the present time. A thorough study of the law is warranted before an amendment to social security should be considered. Also, it was stated that there is renewed interest in Washington in regard to narcotics, barbitol and amphetamines, and the problem has been under consideration in order to establish a policy on the subject.

Laws enacted by 84th Congress to date.

Enacted into law 1955: Doctors Draft extension H. R. 3005; (P.L. 118); Mental health survey H. J. Res. 256 (P.L. 182); Senate Narcotic hearings authorized S. Res. 67; Air pollution control S. 928 (P.L. 159);

Enacted into law 1956: Salk vaccine grants extensions S. 2990 (P.L. 411); Military career incentives H. R. 9428; and PHS military status S 2587.

This committee anticipates an active legislative slate in our own state next year and will welcome any information at anytime regarding proposed or anticipated legislation.

Respectfully submitted,

M. Tische Shelton, M.D., Chairman
Robert J. Barrett, M.D.
Wilson H. McWethy, M.D.
Lawrence Crane, M.D.
Wilbur B. Manter, M.D.

Health Insurance Committee

To the President and Members of the Maine Medical Association:

The Health Insurance Committee has met four times during the past year with each session averaging five hours. Although routine matters have been handled, our main occupation has been the study of an alternate Blue Shield Plan with higher premiums, fees and income limits according to our instructions from the 1955 annual meeting.

We have been aware that some men feel that the present Blue Shield plan was "shoved down their throats" and we should like to avoid, if possible, any such criticism of the proposed new plan. Therefore, we have endeavored to consult with all specialty groups and have also sent a questionnaire to all members.

The results of the questionnaire have been most gratifying. Of replies received at this time, sixty per cent indicated a willingness to serve and *work* on a Health Insurance Committee. Approximately 325 replies were received, thirty-six per cent from general practitioners, twenty-four per cent from non-surgical specialists and forty per cent from surgical specialists. Six per cent of the replies were from non-participating physicians. Their reasons for not participating were mainly, low fees, the two thirds payment to non-participating physicians feature and a few isolated reasons difficult to classify.

Regarding present fees, the surgeons showed remarkable restraint in commenting on medical fees and the medical men on commenting on surgical fees. Sixty-six per cent felt the surgical fees adequate, while only twenty-nine per cent felt the medical fees adequate. About seventy-five per cent felt the fee for a seven-day hospital stay should be from twenty-eight dollars up to fifty dollars. Most of the men felt a large percentage of their present Blue Shield patients had incomes larger than \$3000. This fact is borne out by Associated Hospital Service figures which show only one out of five Blue Shield claims to be a service benefit claim.

Thirty-seven per cent charged no Blue Shield patient extra, only twenty-eight per cent charged all; these were mostly specialists. With regard to the acceptance of Blue Shield fees for dependents of military personnel, seventy per cent said yes, fourteen per cent no, fifteen per cent no comment.

Answers to the question "If Blue Shield fees were raised by twenty-five per cent to fifty per cent, would you accept these as payment in full regardless of the patient's income" are tabulated:

	Yes	No	Qualified	No Comment
All M.D.'s	58%	16%	4%	25.6%
General Practitioners	77%	5%	2%	11 %
Surgical Specialists	63%	13%	2%	22 %
Non-Surgical Specialists	14%	30%	1%	55 %

We would ask you to bear certain considerations in mind while studying our report:

1. This is only a *proposal* — it is by no means final.
2. We are limited in what we can pay for fees by what the resultant premium would be. We believe this plan could be sold for around six dollars a month or double the cost of the existing plan although this is not yet a definite figure. Any larger premium would seem unsaleable.
3. We feel there is a definite need for this program since our old income limits are unrealistic. We appreciate that we are in competition with commercial companies but believe for reasons previously stated that this must needs be.
4. Although there are several small specialty groups in two of our larger population areas who state they will not join any alternate plan, we have tried to include all fields. Psychiatry is the only exception.

We propose income limits under this new plan of \$4000 for the individual and \$6000 for the family. We are well aware that few of our Maine residents earn more than \$6000. Although we are unable to find any up-to-date figures, our best estimates would place the number at around ten per cent. We are suggesting the \$6000 figure because that is what the national association of Blue Shield plans is seeking. In order to sell national accounts, that is those like Nabisco Company, the telephone companies and oil companies with employees in all states, we must meet the income level they desire and \$6000 seems to be the preferred figure. Further, while your committee is not making any recommendation at this time, we wonder if the opportunity to charge this ten per cent, an additional fee might not be so rare as to be more than compensated by the tremendous selling point of accepting the fees under this new plan as payment in full regardless of the patient's income. The response to our questionnaire would seem to indicate majority approval of so doing.

PROPOSED NEW ALTERNATE PLAN

Inpatient medical care:

\$10 first day, \$5 next six days, then \$3 per day up to maximum of seventy days. We considered a proposal to pay non-surgical specialists, i.e., internists, dermatologists and pediatricians an additional fee per day but this was vetoed on the basis of discrimination. The committee was divided on this point.

The present twenty-five dollar allowance for emergency medical care would continue under the new plan.

Consultation:

\$10 per consultation — maximum of three any one calendar year. Consultant to be defined as one who limits his practice to the particular field in question. Psychiatrists to be paid for consultations but not for electro shock therapy.

Surgical fees:

Our study revealed that there is a wide variance in present fees throughout the state and indeed within any one locality. We, therefore, decided to adopt the Massachusetts Preferred Plan schedule with a few modifications since it is the result of a great deal of group study and presumably satisfactory to most of the physicians in that state, and equal or higher than most Maine fees.

This plan pays approximately twenty-five per cent greater fees than our existing plan. Comparative fees for the most common occurring procedures follow:

	Present Plan	Massachusetts Plan	Proposed Plan
Tonsillectomies	\$ 30-\$ 40	\$ 50-\$ 85	\$ 50-\$ 60
D and C	\$ 25	\$ 40	
Appendectomies	\$100	\$125	
Herniotomies	\$100	\$125	
Hysterectomies Pan	\$150	\$200	
Sprains	\$ 5-\$ 10	\$ 15-\$ 25	
Abscesses	\$ 5-\$ 10	\$ 25-\$ 40	\$ 15-\$ 25
Fracture Radius and Ulna	\$ 50	\$ 75-\$150	
Cholecystectomies	\$125	\$200	
Hemorrhoidectomies	\$ 50	\$100	
The exceptions to the Massachusetts Plan are listed below:			
	Present Plan	Massachusetts Plan	Proposed Plan
Vaginal Delivery	\$ 50	\$ 75	\$100
Section	\$100	\$150-\$175	\$150
Extra Perit	\$135	\$200	\$200
Circumcision including newborn	\$ 5	\$ 25	\$ 15
Over age ten	\$ 5-\$ 10	\$ 40	\$ 25

Continued on page 190



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Welfare Programs For Needy Patients *

JOHN Q. DOUGLASS, *Director*
Bureau of Social Welfare

Two programs of financial assistance administered by the Department of Health and Welfare constitute possible resources to the individual with tuberculosis and to his family. Neither is designed specifically for the individual with tuberculosis, nor is the assistance available to all needy tuberculous.

In the fall of 1954, a Special Session of the 96th Legislature established a program of Aid to the Permanently and Totally Disabled for needy individuals 18 to 65 years of age, who are without spouse, parents, or adult children able to support, and who are not receiving treatment for either tuberculosis or psychosis in a public or private institution. Such individuals must have lived in Maine for five of the last nine years and for one year immediately preceding the date of application. They must not have transferred property since January 1, 1952, without having received reasonable consideration. Although the disability must be both permanent and total, this factor is not as restrictive as might be assumed from the popular connotation of those terms. A decision as to the existence of a permanent and total disability is based upon medical and social information. Such social factors as education, work experience, and availability of suitable work within the community enter into the decision. Thus, we think of two individuals with arrested TB who have an equal amount of respiratory reserve, the one whose background is heavy manual labor may be medically eligible for assistance while the other who has the competence to accept available sedentary work would be ineligible.

The impairment must be permanent. The totality need not be of a permanent nature.

The maximum amount of assistance which can be paid is \$55 per month plus eligibility for hospitalization benefits of up to 45 days per fiscal year.

An older financial assistance program is Aid to Dependent Children. Needy children 16 years of age or under, or between 16 and 18, if regularly attending school living with certain specified relatives, who are maintaining suitable family homes, are eligible for this

assistance, if deprived of parental support or care involving total incapacity or hospitalization.

For a variety of reasons, the Aid to Dependent Children program is more restrictive in nature than is Aid to the Disabled. Children are eligible from the standpoint of disability while a parent is a patient in a sanatorium and for six months after discharge. Following this period, if the parent has the ability to give any degree of support regardless of availability or suitability of work and without regard to its relation to his capacity, the children are ineligible. The maximum amount of assistance which can be paid is \$60 per month for the first child, plus \$21 for each additional child to a total of \$207 per month. In addition to maximum grants, the total amount of income, including ADC, which a family may receive is limited to \$106 per month for three people to \$250 per month for nine or more people. Each member of the assistance group has hospitalization coverage for up to 45 days per fiscal year.

As of March 30, 1956, 569 individuals received an average of \$52.12 per month in the Aid to the Disabled program. (In about 4 per cent of these cases the primary disability was some form of TB.) On the same date, 4,481 families received an average grant of \$81.59 in the program ADC. About 10,500 children were represented. In approximately 750 cases, deprivation was based on incapacity of a parent.

The philosophy underlying Aid to the Disabled is that a money payment should be accompanied by efforts to restore an individual in a productive way to bring about self-maintenance of self-care. The test of eligibility is not met if an individual refuses reasonable, available medical treatment. It has already been indicated that eligibility does not exist during the period of institutional treatment. Under existing policies, cashable assets, not including property occupied as a home, of more than \$300, disqualify an applicant. Cashable assets include such things as bank accounts, securities, cash surrender value of insurance and notes of mortgages held. Income must be less than necessary to meet minimum adequate expenses for food, clothing, shelter, fuel, utilities, household supplies, medical chest supplies

*An address presented at the annual meeting of the Maine Tuberculosis Association in Portland, Maine, May 4, 1956.

and personal supplies. The concept of relative's responsibility — spouse, parents, and adult children — has a marked effect on our laws and policies. Without going into detail, a general principle can be stated that if a legally responsible relative has income greater than needed to furnish himself and his dependents an ordinary standard of living, he is expected to partially or fully support the needy person, depending on the exact amount of his income.

Although there are limits, it will be found as the program grows, that an important floor has been established below which the permanently and totally disabled person cannot fall. The greatest unmet need will be discussed in connection with the Aid to Dependent Children program.

It is said that the success of treatment of a TB patient depends in part on the amount of anxiety carried by the patient for the welfare of his family. It would be comforting if assurance could be given that the Aid to Dependent Children program, in a majority of instances, would allay the anxiety of a reasonable man. Mention has already been made of the test of incapacity, and it has been pointed out that after six months following discharge from a sanatorium, ability on the part of the parent to provide any degree of support makes the family ineligible. Assets in excess of \$600, again excluding property occupied as a home, disqualify the family. The median figure of income of an employed person in Maine is \$2,149 per year, and the average family group is composed of father, mother and about three children. If it meets all of the eligibility requirements immediately upon the father's admission to a sanatorium, the average grant will be, as has been said, \$81.59 per month or \$979.00 per year, less than half of the median income figure. Even if the family has other income, the maximum income, including ADC, that a family of four may have while receiving ADC is \$165 per month, or \$1,980 per year.

It is unfortunate that this maximum is seldom reached in ADC families. As a matter of fact, our statistics show, again speaking of the average family, that the income is almost \$400 a year less than this need figure.

What are some of the implications of a family living on such a reduced income? Great pride is felt in the standard of living enjoyed by the American people today. It is recognized that this standard is due in part to installment purchasing. While some may have personal feeling about the wisdom of indebtedness of this type, it cannot be denied that it is an integral part of our way of living.

The number of young adults who do not have a sizable load of carrying charges on such items as home furnishings and equipment is said to be relatively small. If the wage-earner becomes incapacitated for any reason, the cash reserves of his family are liable to be small. If the family finds it necessary to apply for public financial assistance, no allowances can be made for these carrying charges, so that the net result is not only a

reduced income, but a necessity to live without many of the items which have been considered essential. Success in our American culture is judged in a large degree upon the number of things that a family possesses. Faced with the loss of these things, a disability becomes not only an illness, but a mark of failure.

It is possible that a determination to prevent a lower standard of living for his family often is the cause of an individual postponing adequate medical treatment.

It should be remembered that this situation exists not only for the children of the tuberculous but for all children living with relatives, who are in need because of deprivation of parental support by reason of death, incapacity, separation of parents or desertion.

It is unfortunate that the medical advances of this century and the acceptance of this new knowledge by society has not been matched by similar advances and, more important, acceptance in the field of welfare. Our welfare laws and programs are still influenced by a concept first voiced in the reign of Elizabeth I of England — a person in financial need should be given less relief than he needs to maintain himself so that he will become uncomfortable enough to become self-supporting.

Modern social welfare theory believes that dependency exists prior to an application for assistance and, thus, that the granting of assistance does not create it. It also believes that neither the presence nor absence of a money payment constitutes treatment of the basic cause of financial dependency and that more than financial assistance is required to bring about self-support. It knows that physical illnesses, mental disorders, cultural patterns, sociological factors, such as housing, racial discrimination and family breakdown, along with many other elements constitute the basic problems of the financially dependent.

One of the reasons for continued adherence to outmoded relief concepts is reluctance on the part of society to acknowledge as experts those people who specialize in welfare programs.

In an increasing degree, in addition to money payments, casework help is being given to individuals and families known to the Department. An attempt is being made to understand the real reason behind the financial dependency. In many situations it is not as easily identifiable as is the case in relation to physical illness. As we plan for the future, the development of skills on the part of our workers to give definite and specific help to these underlying causes seems inevitable. At the present time, our efforts are for the most part confined to referral to other agencies which are equipped to give this kind of service. In this year, a Medical-Social Work Consultant has been added to our staff. Our social workers in the field use this consultant in relation to illness, medical problems, and resources.

We cannot generalize and say that ADC is or is not the best plan for the family of a man admitted to a

Continued on page 191

IMPORTANT RESEARCH CONTRIBUTION

Searle Introduces:

A Practical New Steroid for Protein Anabolism

Nilevar*

(BRAND OF NORETHANDROLONE)

PROTEOGENIC EFFECTIVENESS • The newest Searle Research development, Nilevar, exerts a potent force in protein anabolism. Yet it is without appreciable androgenic effect (approximately one-sixteenth of that exerted by the androgens).

Investigations with Nilevar show that nitrogen, potassium and phosphorus are retained in ratios indicating protein anabolism. Nilevar is thus the first steroid which is primarily anabolic and which provides a practical means of meeting the numerous demands for protein synthesis.

NILEVAR IS ORALLY EFFECTIVE • Clinical response to Nilevar is characterized not only by protein anabolism but also by an increase in appetite and an improved sense of well-being.

SAFETY AND PRECAUTIONS • Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently.

DOSAGE • The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the daily dose is 1 to 1.5 mg. per kilogram of body weight. Individual dosages depend on need and response to therapy. Nilevar is available in 10 mg. tablets. G. D. Searle & Co., Research in the Service of Medicine.

INDICATIONS:

Nilevar is indicated in the vast area of surgical, traumatic and disease states in which protein anabolism is desirable for hastening recovery. The specific indications are:

1. Preparation for elective surgery.
2. Recovery from surgery.
3. Recovery from illness: pneumonia, poliomyelitis and the like.
4. Recovery from severe trauma or burns.
5. Nutritional care in wasting diseases such as carcinoma, tuberculosis.
6. Domiciliary care of decubitus ulcers.
7. Care of premature infants.



*Trademark of G. D. Searle & Co.

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County Society Notes

HANCOCK

May 16, 1956

A regular meeting of the Hancock County Medical Society was held at the Hancock House in Ellsworth on Wednesday, May 16. Members of the Penobscot, Piscataquis, Waldo and Washington County Medical Societies were invited. A total of sixty-seven members and guests were present. Among the guests were Martyn A. Vickers, M.D. of Bangor, President of the Maine Medical Association, and Daniel F. Hanley, M.D., of Brunswick, Executive Director of the M.M.A.

Following dinner the entire meeting was devoted to a panel discussion on Heart Disease. Members of the panel were Emerson H. Drake, M.D. of Portland, Walter Goodale, M.D. of Boston, Ralf Martin, M.D. of Portland and George J. Robertson, M.D. of Waterville, Moderator. Among the subjects discussed were the management of coronary heart disease and myocardial infarction, rheumatic fever, and detection of surgically remedial heart disease. After a most stimulating discussion by the panel members, questions from the audience were answered until the meeting adjourned at 11:15 P.M.

ARTHUR M. JOOST, JR., M.D.,
Secretary

LINCOLN-SAGADAHOC

May 15, 1956

A regular meeting of the Lincoln-Sagadahoc County Medical Society was held on Tuesday, May 15 at The Ledges in Wiscasset. There were sixteen members and guests in attendance. The meeting was called to order by the president, Joseph Smith, M.D., of Bath.

Francis A. Winchenbach, M.D., of Bath, discussed Health Insurance problems and encouraged members to express themselves to the Health Insurance Committee concerning any complaints or suggestions they might have regarding Blue Shield.

Dr. Winchenbach reviewed the budget for 1956-57, as proposed by the Council of the M.M.A., noting particularly the increases in expenditures and the proposed increase in dues. It was moved and approved that the delegates be instructed to approve the proposed budget.

The meeting was then turned over to John Fisher, M.D., of the Boston Floating Hospital, who discussed Abdominal Pain in Childhood.

The next regular meeting of the society will be held in September.

EVERETT D. SCHUBERT, M.D.,
Secretary

PENOBSCOT

Martyn A. Vickers, M.D., of Bangor, president of the Maine Medical Association, has been elected to Beta Chapter, District of Columbia, of Alpha Omega Alpha, honor medical society. Dr. Vickers was formally received into the group at a dinner meeting in Washington, D.C., May 3, 1956.

SOMERSET

May 18, 1956

The Somerset County Medical Society met at the Central Maine Sanatorium in Fairfield on Friday, May 18, 1956. There were twelve members present.

Continued on page 190

Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

TB, Geriatric Problem

By John B. O'Connor, M.D., *BULLETIN, NATIONAL TUBERCULOSIS ASSOCIATION, January, 1956.*

The trend towards older patients in our tuberculosis hospitals raises many questions for which there are, as yet, no answers. If, however, the current trend continues, and there is no reason to suspect that it will not, the care and treatment of pulmonary tuberculosis will truly require the services of those experienced not only in tuberculosis but also in the management of the elderly individual.

Only 15 years ago the majority of patients in the tuberculosis hospitals were active, alert young people and the principal problem encountered was that of enforcing some degree of bed rest. At the present time, the majority of patients in tuberculosis hospitals are above the age of 40 years with over one-fifth being above the age of 60 years.

This change in patient age groups has resulted in a different, sometimes depressing, atmosphere in the hospitals. In addition, it has altered the whole medical routine because of the increased incidence of non-tuberculous complications seen in these older age groups. In many patients the tuberculosis seems a complication secondary to a major nontuberculous condition.

Does this mean that pulmonary tuberculosis has now become a disease of older people? By no means is this true. The answer is that the excellent tuberculosis control work of the past has screened the younger age groups and removed the potential source cases before the disease can be spread, thus reducing the number of new cases among the younger ages. A weakness of the control program has been the lack of cooperation of the older people, many retired or unemployed and not accessible to industrial or group surveys. This is now being corrected by orienting case finding programs toward older age groups and by the routine chest films obtained on general hospital admissions. In our experience the latter source is responsible for the discovery of the majority of patients with tuberculosis in the older groups.

In Connecticut during the year 1938, 52 per cent of all tuberculosis hospital admissions were under age 30, and only six per cent were above 60 years of age. In 1953 only 23 per cent of the admissions were under age 30 and 22 per cent were above 60 years of age with the males predominating in a ratio of more than four to one. The total admissions of all age groups increased 50 per cent between the two periods but the group above 50 years of age increased about 370 per cent. Although older men predominate it is significant that more older women are also being admitted.

The older age groups in Connecticut are a known reservoir of infection and make up a large part of our tuberculosis patient population. Where were these patients 15 years ago and what was the state of their health? Were they the infected cohorts with clinically inactive pulmonary disease of those who died of tuberculosis then? Did they succeed in escaping detection only to break down in later years?

This was once an accepted theory, but many of the current older patients have had normal chest X-rays during previous hospitalizations or have had previous survey films which were entirely normal upon review. They have acquired or developed their disease for the first time in the later years of their lives. Years of routine chest X-ray surveying have made

it possible to time the development of pulmonary tuberculosis in older age groups. This aspect of routine chest X-ray surveys and their value as a base line for other pulmonary conditions, such as carcinoma of the lung, have been of exceeding value to the physician in the study of pulmonary tuberculosis in the elderly patient.

The problem of treatment in these patients is made difficult by the frequent presence of emphysema, by complicating cardiovascular disease, and by the inability of many such patients to adjust to hospital life. Therefore it becomes imperative to discover and treat these patients while the disease is in its early stages.

Such methods as surveys of older age groups and routine chest films on all general hospital admissions have been mentioned. All diabetics should have chest films at the time of discovery and repeat films at least annually. Patients with chronic pulmonary complaints should not be dismissed with one normal chest X-ray. If symptoms persist repeat films are indicated. Chronic alcoholics should have frequent chest films since this group, comprised largely of social outcasts and homeless men, has an extremely high incidence of pulmonary tuberculosis. Routine surveys of nursing homes and old age homes will uncover patients with active disease. Age does not protect against active pulmonary tuberculosis. No age group can be considered immune.

Age is not a deterrent to recovery from pulmonary tuberculosis. An elderly patient with few degenerative changes should have no more difficulty in treatment than a younger patient. Such patients have undergone thoracic operations for resection of residual disease with minimal complications. Stability of disease has been achieved in some with prolonged medical treatment. Unfortunately, many of the older patients present themselves with extensive disease and are unable to tolerate any major operative procedures because of non-tuberculous complications.

With antimicrobial therapy and other measures the death rate from tuberculosis has declined dramatically in the younger age groups. In the older age groups stabilization of disease often occurs in patients in which complete recovery cannot be obtained, only to have the patient die of a non-tuberculous condition. Occasionally treatment, although arresting the active tuberculous process, results in changes in the lungs which cause a greater work load for the heart and the patient dies in later years of heart failure. Thus, although these patients have had active tuberculosis, their death rate from tuberculosis has dropped and their death can be attributed to other causes.

It is estimated that by 1960, between 13 per cent and 15 per cent of the adult (over age 20) population of the United States will be 65 years of age or older. If these older people continue to be infected with the tubercle bacillus, as they are now, the problem of tuberculosis in this age group will persist and may become more acute.

The successful screening of younger people in the past should be the key to control of disease in the older age group. Admittedly, these elderly people are hard to reach. Education of this group must be pressed vigorously so that they will participate in X-ray surveys. Recovery with the aid of modern treatment must be emphasized in order to eliminate the passive attitude assumed by many elderly people.

Similarly, these older folks must learn that if tuberculosis is detected early they stand an excellent chance of recovery. The best way of finding their disease early is by annual chest X-rays. Perhaps if tuberculosis can be well controlled in this older age group another great step in eradication of the disease will have been taken.

*Vol. XXIX, June, 1956, No. 6

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

COUNTY SOCIETY NOTES — Continued from page 188

The program consisted of a discussion of diseases of the chest, presented by William B. Grow, M.D., of Fairfield, and George E. Young, M.D., of Skowhegan.

HARLAND G. TURNER, M.D.,
Secretary

YORK

May 9, 1956

The Bi-Monthly meeting of the York County Medical Society was held in the Chapel of the Congregational Church in

Alfred on Wednesday, May 9. There were twenty members and five guests present.

Edward B. Frank, M.D., of Boston, Associate in Surgery, Harvard Medical School and Surgeon at Beth Israel Hospital, gave an interesting and instructive talk on Electrotape Balance, Newer Drugs and Advances in Surgery.

The members voted in favor of the proposed raise in State Association dues. It was also voted to favor raising Blue Shield limits.

CHARLES W. KINGHORN, M.D.,
Secretary

STANDING COMMITTEE REPORTS — Continued from page 184

Assistants Fees:

These are to be geared to the surgeon's fee in this manner:

Surgeon's Fee	Assistant's Fee
\$ 75 to \$ 99	\$15
\$100 to \$150	\$25
Over \$151	15% of surgical fee

Non-participating physicians would be paid the same fee as participating physicians but the patient would be paid directly.

We hope to include some diagnostic rider not yet devised at this writing, to pay the pathologist and radiologist in private practice.

We would like to repeat that this proposed plan is just that — a proposal. While no plan could please everyone, we hope we have approximated what the majority of our members wish. We naturally stand ready to make any further study the House of Delegates may request.

Further, bearing in mind that the individual physician will have the final decision as to whether or not he signs a contract to become a subscribing physician, we would suggest a referendum on the question before entering into a final agreement with Associated Hospital Service on any new plan.

In order that each component society might have representation on the insurance committee, we have caused to be introduced a resolution increasing the members to fifteen, and are also asking permission to appoint an advisory board consisting of one representative from each of the specialties.

With the changes made in the present contract last year, Blue Shield has finally gone into the black. It is our hope that the coming year may see some liberalization of payments under this existing plan.

In conclusion, our relationships with the Associated Hospital Service have continued to improve. While under their charter, we cannot have a controlling number of directors, we feel that in actual practice (insofar as actuarially feasible) we have vested in our representatives on the board, control of the medical policies as they affect the physician.

Respectfully submitted,

Edward K. Morse, M.D.
Kenneth W. Sewall, M.D.
Clyde I. Swett, M.D.
Francis A. Winchenbach, M.D.
Louis A. Asali, M.D.
Samuel L. Belknap, M.D.
Waldo A. Clapp, M.D.
Ross W. Green, M.D.

Linus J. Stitham, M.D., *Chairman*
Health Insurance Committee

INVESTMENT COMMITTEE

To the Officers and Members of the Maine Medical Association:

Following is a list of securities with purchase prices and present quotations as of May 11, 1956, received from Carrell K. Pierce of H. M. Payson Company. It is the feeling of Mr. Pierce that the list is conservative and should continue to pay the coupon interest and dividends:

10	Shares	CONSOLIDATED EDISON Preferred 108, purchase price 109
20	Shares	FIRST NATIONAL BANK OF BOSTON 61½, purchase price 51¼
1		NOVA SCOTIA 3¾% Bonds 98 bid, purchase price 99½
12	Shares	CENTRAL MAINE POWER COMPANY 3.50% Pfd. current price 75, purchase price 79
1		JACKSONVILLE GAS CORPORATION BOND 102, purchase price 102½
1		PORTLAND TERMINAL COMPANY Bond 99½ bid, purchase price 99.68
15	Shares	GUARANTY TRUST COMPANY 80½, purchase price 66
23	Shares	NATIONAL UNION FIRE INSURANCE 43¾, purchase price 43½
31¼	Shares	CHASE MANHATTAN BANK \$50, purchase price of the old Chase National before merger 41¾

(A complete list of Securities will be included in the Auditors' Report.)

Respectfully submitted,

E. R. BLAISDELL, M.D., *Chairman*

PUBLIC RELATIONS COMMITTEE

To the Officers and Members of the Maine Medical Association:

The committee has not been active. No formal meetings have been held. One member attended the September, 1955 meeting of the Department of Public Relations of the American Medical Association, held in Chicago. The chairman planned to attend the institute and meeting in Boston, in conjunction with the fall clinical meeting of the American Medical Meeting, but was unable to at the last minute.

The members of the committee cooperated with the Maine Medical Association's publicity during Medical Education Week this spring, making tape recordings for broadcast and local speeches in order to acquaint the public with the problems and aims in medical education.

It is suggested by the committee that in the future, members of this committee be selected only after ascertaining that they are interested in the field, and have the time, the location, and the ability to make a truly aggressive functioning committee.

WESLEY N. WASGATT, M.D., *Ex-Chairman*

DEPARTMENT HEALTH AND WELFARE

Continued from page 186

sanatorium, or any family deprived of the support of a parent. There are too many variable factors to permit such a generalization — the ages of the children, family relationships, the skills of the mother, the availability of work, the availability of a suitable caretaker for the children, the attitude of the father, the net amount that would be available to the family from earnings.

In the twenty years it has existed, ADC has had some serious limitations, but the social gains which have been made by the program of financial assistance to children in their own homes rather than separated from their parents cannot be calculated.

Reference has been made to the hospitalization plan for recipients of Aid to the Disabled and Aid to Dependent Children. This program which became effective July 1, 1955, established a Medical Pool Fund into which is paid a specific amount each month for each recipient. Whenever a recipient, or a member of his family on an ADC grant, enters the hospital, the hospital bills the Medical Pool for \$12.50 per day for each day of hospitalization up to 45 days per individual for a fiscal year. This payment is deemed to cover all expenses of hospitalization other than special nursing, prosthetic appliances, blood purchases from donors, and anesthesia, when not administered by a salaried employee of the hospital.

As part of the process of determining whether an individual is permanently and totally disabled, and where in ADC a parent is totally incapacitated, the Department is able to pay local physicians for diagnostic information, and if consultations or hospital work-ups are indicated, these, too, can be provided. There is no provision in these programs for payment for treatment services.

This is no simple problem which can be solved by additional appropriations. The means by which medical care can be furnished welfare recipients is a medical, welfare, and public health problem. So long as medical care is not available, advances in rehabilitation will be less than spectacular. Insofar as children are concerned in the Aid to Dependent Children program, there is a possibility that foundations for dependency of future generations are being laid by not meeting today's medical needs.

Basically, our welfare laws as they relate to categorical assistance programs are adequate and enlightened. It seems certain that the amounts appropriated by the Legislature to finance these programs reflect the wishes of the majority of our citizens. Therefore, if changes are desirable, the first change must come in local communities. It is certain that as community attitudes change, representatives of the community change, too.

Groups such as this one can be a powerful force in changing community attitudes. People such as yourself occupy a strategic position to observe both the need

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Lea & Febiger, 1954, pp. 177-178.**

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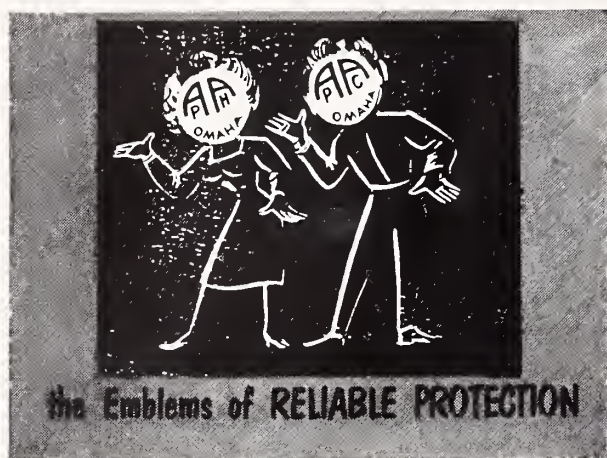
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for financial assistance and the effect of existing programs. You have become experts in your own field and can speak with authority of the needs of those people who have tuberculosis and of their families. You know that an adequate diet is not a luxury, but an essential. You know that the work tolerance of a person recovering from TB is limited. You are in a position to realize that what is good for the children of a parent suffering from TB is, in a large part, true of *all* children who have been deprived of the support of a parent for whatever reason. We are often asked by groups representing voluntary health and welfare agencies if representatives of these groups could aid us at the time of legislative committee hearings. While such help cannot be discounted, you can be far more effective in your communities 730 days out of each biennium than in a 10- or 15-minute appearance before a legislative committee.

Mention has not been made of local welfare programs as a resource. As municipal relief programs are financed totally by local funds, responsibility for determining whether an individual or family is "in distress" rests entirely with local officials. While we may feel that some assistance given by some communities is completely inadequate, we should remember that the demands on local revenues are extremely heavy and realize that some communities find it absolutely impossible to spend more for relief purposes.

ACROSS THE DESK

Continued from page 182

GUIDES TO FILLING OUT THE MEDICAL REPORT FORM

No matter how good the standards, nor how considered the judgment of the reviewing team, the determination reached can be no sounder than the evidence upon which it is based. To make sure that he is providing sufficient medical evidence for a prompt and fair determination, the doctor will want to consider the following guides in filling out medical report forms for those of his patients who have applied for the social security disability freeze:

First, include sufficient clinical detail to enable the reviewing team to make a sound determination as to the severity and extent of the patient's current condition: *Second*, give enough of the clinical history to provide information as to when the disability began, and when it became so severe as to keep the patient from working; *Third*, describe the probable course of the condition from now on, so that a decision can be reached as to whether the impairment is likely to continue indefinitely, or end in death, or whether it is self-limiting, or remediable in the foreseeable future.



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No. 7

Brain Ependymoma Case Report

EDWARD L. FOOTE, M.D.*

Ependymomas are tumors of the nervous system included under the classification of glioma. The incidence of gliomas is given in the recent Public Health Service Monograph, No. 29, entitled, "Morbidity from Cancer in the United States." Reporting cases per 100,000 population the glioma are reported in males — 6.8 cases and in females 4.8 cases, in contrast to one of the largest tumor groups, that of gastro-intestinal tumors reported as males 110 cases and females 79 cases. In a similar report a series of 743 tumors of the nervous system, 576 were listed as tumors of the brain and 167 were in other portions of the nervous system. The percentage of ependymomas to the entire glioma group was reported by Kernohan and associates in 1948 to be 9.1%. Cushing reported 3.4% in 1930 with Baker reporting 8.2% in 1941. This indicates an increasing proportion of ependymomas in the glioma group.

The ependymomas are slow growing tumors and the symptoms depend largely on the location. Many tumors in the 4th ventricle show headache and vertigo. Pressure cerebellar symptoms consist of staggering gait, difficulty in maintaining balance, judging distance of objects and in bringing objects to the mouth and face.

Obstructive symptoms may be late as are symptoms from tumors located in the so called silent areas of the brain. Irregular pulse, elevation of temperature and clouding of consciousness may be the result of pressure on the medullary centers.

Although described in 1899, only recently has a satisfactory classification of ependymoma been established. In 1937 Kernohan and Fletcher, outlined four divisions, namely, epithelial, myxo-papillary, cellular and papilloma of the choroid plexus. This was followed by a system of grading the tumors by Mabon, R. F., Svien, J. J., Kernohan, J. W. and Craig, W. McK. The grading is based on the presence of anaplasia. The tumors are divided into four groups. The first group containing tumors showing no evidence of anaplasia and the fourth group containing a majority of the cells showing anaplasia and pleomorphism of the cytoplasm and nucleus with hyperchromatism of the nucleus. Mitotic figures in this group are abundant and average 4 or 5 per high-power field.

Supratentorial ependymoma may be entirely extra-ventricular, entirely intraventricular or combinations of the above. Supratentorial lesions are more common in the frontal, temporal and parietal lobes. Cyst formation may be associated with supratentorial forms in about one-third of the cases. Some ependymomas contain calcium which aid in the diagnosis. Infratentorial epen-

From Veterans Administration Center, Togus, Maine

*Pathologist

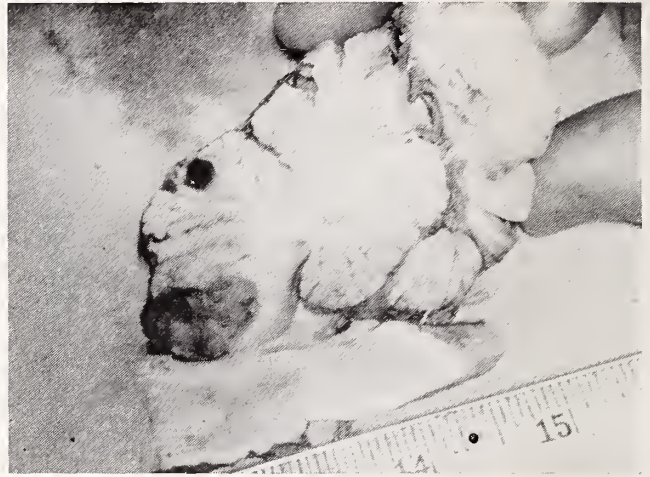
dymomas usually rise in the fourth ventricle. Those arising from the roof of the fourth ventricle do not infiltrate the surrounding structures except at the point of attachment.

Case Report: A 61 year old male was admitted to the VA Hospital, Togus, Maine with a history of staggering, dizziness and unsteadiness of three months duration. There was associated weakness of the right leg. Dizziness was increased by looking backward over the shoulders. He developed a severe constant headache, slurring speech and lapses of memory. There was incoordination when reaching for an object and he dropped things. Unsteadiness resulted in his stopping work. He was hospitalized at Boston where his gait was unsteady. He walked on a wide base and was unable to walk on a straight line. Heel to toe test was positive. The fundi were normal. The sensory examination was normal. The deep reflexes were more active on the right. An X-ray of the chest showed lesions on the upper lobes considered to be inactive tuberculosis. An EKG indicated a left bundle branch block. Frontal burr holes gave no evidence of increase of the cerebral spinal fluid pressure. A ventriculogram revealed the aqueduct and third ventricle to be normal in size. Probe counting after radioactive phosphorus had been administered revealed normal counts. Sub-occipital craniotomy with posterior fossa exploration was done without localization of the tumor. Following discharge from the hospital he developed increased vertigo.

Two weeks later he was admitted to Togus VA Hospital. There was apparently no increase in the weakness of the right extremity or increase in the severity of his headaches. He had no sensory symptoms, incontinence or convulsions. The Babinski and Romberg tests were positive. The cerebral-spinal fluid was clear and an electroencephalogram was mildly abnormal because of fast cycles elicited. No focus or organized seizure discharges were noted. Terminally he developed a broncho-pneumonia. His cerebellar symptoms continued.

Post-mortem findings show a well-developed and normal, white male, with residual scars of previous sub-occipital craniotomy. The lungs show an inactive tuberculosis involving both upper lobes and a terminal broncho-pneumonia involving the right lower lobes. The heart, gastro-intestinal system, liver, adrenal and pancreas are not remarkable. The left kidney has been previously removed. The right kidney shows no pathology. The brain weighs 1260 grams and it measures approximately 21x14x11 cm. The cerebral hemispheres are approximately equal in size and shape. There is some congestion of the meningeal vessels but the basilar artery and circle of Willis are normal. Step sections of the cerebral hemispheres show that in the left temporal lobe there is a cystic area measuring 2x1.3x1.5 cm. It is filled with a yellowish-brown gelatinous material.

The lining of the cavity shows cellular irregularity. In the superior portion of the right parietal lobe close to the motor area is a similar cystic formation. This ap-



Hemi-section shows a cystic lesion in the right cerebellar hemisphere together with a grey-brown granular tumor mass in the mid-line near the fourth ventricle. The cystic area is similar to those found in the cerebral hemisphere.

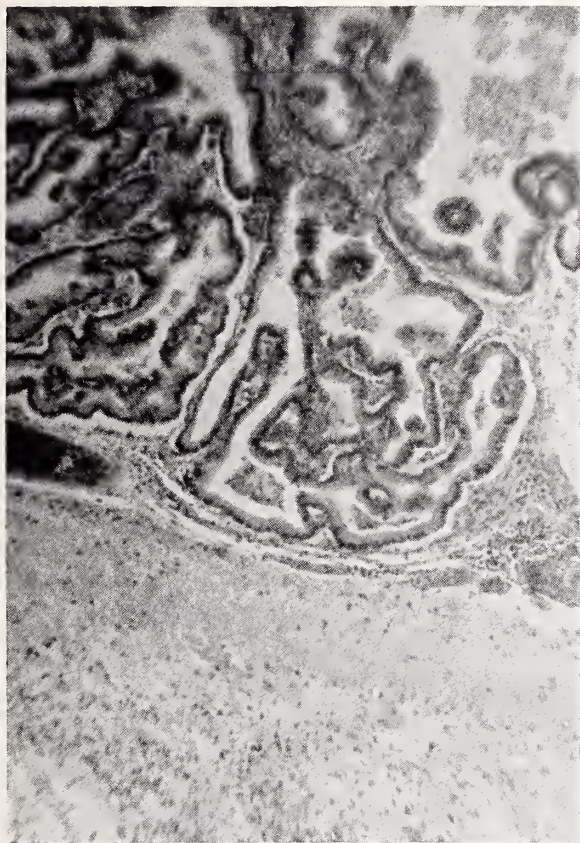
proaches to within 1 cm. of the surface of the brain. The cystic area measures 2 cm. in diameter and is filled with a similar material to that described above. There is another area present in the right occipital lobe involving the white matter and measuring 1.5x1x1 cm. The gross picture of this is similar to the one described above. Sections of the cerebellum show a cystic area .6 cm. in diameter present near the right superior cerebellar surface. There is a grey-brown granular nodular tumor mass 2 cm. in diameter in the mid-line in the portion near the fourth ventricle. The lesion is located in the right cerebellar hemisphere at the roof of the 4th ventricle. The tumor shows no invasion except at its point of attachment.

Microsections from the tumor growing from the roof of the fourth ventricle show it to have a papillary structure. The tufts of the tumor have high cuboidal cells. The papillary processes are covered and surrounded by the above-cells with a fibrous tissue stroma, portions of which show a myxomatous degeneration. The core of the papillary processes contains blood vessels without cellular infiltration. Portions of this tumor showed small cystic areas. Microsections of the supratentorial cysts show that they were lined with a layer of cuboidal cells and the tumor is separated from the surrounding cerebral tissue by a thin membrane. Projecting into the cyst are small papillary projections lined with low cuboidal cells. The cyst contains a gelatinous, reddish-brown material.

DISCUSSION AND SUMMARY

An ependymoma exhibiting both cystic supratentorial lesions and a papillary infratentorial lesion in the roof of the fourth ventricle has been presented.

The relation of the lesions is not clear, whether the supratentorial lesions represent metastatic lesions from the fourth ventricle lesion by way of the ventricular system and the Virchow-Robin spaces or whether the cystic lesions have arisen from the so-called ependymal rests. The supratentorial lesions were of various dis-



Cerebellar mid-line tumor. Shows an Ependymoma with papillary processes covered with high cuboidal cells.



Cystic area in the left temporal lobe. It is lined with a layer of epithelial cells. There are small papillary projections to the cyst. The cyst contains a gelatinous reddish-brown material.

tances from the external surface of the brain and the ventricular system. The cerebellum also contained a small cystic lesion. Previous exploration of the posterior fossa had failed to reveal the tumor. This illustrates the difficulty in diagnosis and treatment presented by these tumors. Even when a posterior fossa tumor is found at operation the possibility of supratentorial lesions must be considered in the prognosis. The presenting symptoms of this tumor depend on the location of the tumor rather than its classification or grading. The symptoms in this case being largely due to the lesion in the fourth ventricle with evidence of cerebellar compression. The presence of tuberculosis in the patient raised the question of a possible tuberculoma in the cerebellum. Cerebellar tumors in these patients should be carefully excluded.

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Craniocerebral Injuries

ALBERT S. CRAWFORD, M.D.*

In spite of all attempts to prevent accidents and to make them less lethal, the numbers continue to increase year after year. During the last decade the automobile has caused more deaths in the United States than all of our wars combined in past years. Thirty-five percent of all accidental deaths are by head injuries, and nearly two thirds of all accidental deaths by auto are due to brain injuries.

Although it would be ideal if all cases of craniocerebral injury could be treated by neurological surgeons, many will continue to be cared for, at least partly, by those not thus fully trained. It is the purpose of this paper to give some of the most important data as an aid and guide in such management.

The degree and duration of unconsciousness is one of the most reliable indices of the extent of brain damage. Concussion is the term applied to the least degree of damage. In this, the duration of unconsciousness varies from a few seconds to about three hours. Patients do not die from concussion, because the brain changes are not irreversible. However, death can result from hemorrhage which develops later as a complication. Contusion and laceration are the terms applied to the more severe degrees of brain damage.

Contrary to popular conception, the fracture of the skull, in itself, is not the most important index of severity of injury. It is rather the type and degree of brain damage which is significant. The main types of skull fractures which are important are, (1) compound, depressed, (2) those across and tearing the middle meningeal artery, low in the temporal area, (3) those into air or venous sinuses, (4) simple, depressed, fractures. In the first, surgery is indicated as soon as shock permits. In the second, operation should be done immediately. In the third, a few cases are benefited by prompt surgery before the clot is too extensive. In the fourth, the indications are less agreed upon and absolute.

The average experience in large series of craniocerebral injuries is: about 10 percent die in spite of the best treatment; 70 percent recover with the average adequate treatment; the remaining 20 percent constitute the group which are real problems. These are the cases where more or less reversible damage has occurred and/or where hemorrhage has supervened, and where survival may depend upon expert care.

Some criteria of severe brain damage are: (1) pro-

longed or deepening unconsciousness, (2) progressive worsening of vital signs—pulse, respirations, temperature and blood pressures (in order of their sensitivity), (3) continuing absence of, or loss of, deep tendon reflexes and tone of musculature, (4) fixed and/or dilating pupils, (5) sphincter incontinence, (6) objective signs of intracranial hypertension such as increased spinal-fluid pressure, papilledema and extensor toe signs, and (7) Cheyne-Stokes respirations.

A carefully taken, detailed medical history is important in evaluating the possible severity of brain damage as well as for its medicolegal value later. Carefully conducted neurological examinations, repeated at regular intervals, are necessary in watching for developing complications such as hemorrhage. Vital signs should be charted by nurses so as to judge the course and watch for progressive changes in vital signs. Shock should always be treated first. X-ray examinations and lumbar punctures can usually be postponed until the patient's condition warrants.

Adequate air exchange must be maintained at all times. Removal of accumulating mucus with bedside suction is imperative. In deep coma, positioning to prevent prolapse of the tongue or insertion of an airway may be necessary to promote easier breathing. Tracheotomy may be indicated early to save life. It is usually better, if possible, to elevate the head 20 or 30 degrees.

Catheterization or, better, insertion of continuous bladder drainage may help prevent the restlessness from a distended urinary bladder. The procedures of repeated spinal drainage and/or hypertonics are now not often used, except with special indications. Morphine is contraindicated, at least in the critical period when the pulse and respirations and depth of unconsciousness are such valuable criteria. Codeine is a little safer to use, if absolutely necessary for pain. Barbiturates for sedation also may mask signs and symptoms and tend to increase the tendency to hypoxia, which is to be so feared because of its deleterious after effects. Brain cells are the most vulnerable to oxygen deprivation of all the body cells. Resultant changes occur in the nuclei, cell bodies, and axis cylinders which, when extensive enough, can become irreversible, often explaining the unfavorable sequelae of head injuries.

Adequate fluid balance should be maintained. Intravenous fluids and later Levin tube feedings are necessary with comatose patients. Antibiotics may prevent infection with compound fractures. Tidal drainage is safer than simple retention catheter. Antipyretic

From Veterans Administration Center, Togus, Maine.

*Neurological Surgeon.

measures are probably helpful with prolonged fever.

Cerebral hemorrhage is one of the most dreaded and dangerous of the complications. Of these, the one which is most dramatic is the extradural, which results from tearing of the middle meningeal artery. A low temporal fracture is the one most likely to tear this artery. The patient normally regains his consciousness promptly and seems not to be too seriously injured. This is called the "lucid interval." During the next three to eight hours a blood clot develops, which, being outside the dura, is slower in giving the telltale signs of impending danger. It gradually strips away the dura, early pressing on the third nerve of the same side, producing first constriction and, in an hour or two, progressive dilation of the pupil. Then unfolds the usual clinical picture of—slowly progressive loss of consciousness; weakness of opposite face and arm; then the signs of, first, medullary involvement and then of failure, which are progressively increasing pulse, respirations and temperature; then the change to stertorous or Cheyne-Stokes respirations; by this time the patient is in deep coma. If the diagnosis can be made before the danger signs of dilated pupil, coma, and abnormal vital signs develop, and the clot can be promptly removed surgically, there is hope for a good outcome. It is usually too late when signs have fully developed.

Other forms of hemorrhage are: (1) subarachnoid, (2) subdural, acute and chronic, (3) subpial, (4) subcortical, multiple punctate and larger clots, and (5) intraventricular. Surgery is indicated as soon as the diagnosis can be made that blood has accumulated in an accessible location. Burr holes should be made to rule out subdural hemorrhage if progressive deterioration develops, even without localizing signs. It occurs bilaterally in about 50 percent of cases.

As compared to the early days of neurological surgery, fewer cases of craniocerebral trauma are now being subjected to surgery. The mortality rates have been reduced markedly since those days. On the other hand, surgery can be, and is, a life-saving measure if done judiciously and as soon as indicated. Also, it is better to make negative burr holes in a case with survival later than to find at autopsy a clot which could have been removed, thereby preventing a death.

When considering prognosis, the more prolonged the period of unconsciousness, the greater is the chance for unfavorable sequelae. The commonest of these are epilepsy, posttraumatic encephalopathy, and mental de-

ficits. These sequelae occur in varying percentages depending upon the extent of dura and brain-tissue damage. Epilepsy can occur anytime within a ten-year period after injury and follows especially subdural hematomas and wounds which have penetrated the dura and/or have damaged the pia-arachnoid layer. The incidence can be from 12.7 percent, as reported in Dandy's experience, to 50 percent in war series, in the severely damaged brains.

Sometimes the apparently less severe injuries can develop delayed serious complications. These are, (1) thrombosis with infarcts, (2) fat embolism, and (3) accumulation of cerebrospinal fluid in localized areas (hydroma).

Also, the condition commonly known as postconcussion syndrome (headaches, dizziness, fatigability, etc.) often follows the less severe injuries. Here the underlying condition is usually a neuropsychiatric background with trauma as the exciting mechanism. This group of cases, 25 percent in our experience, constitute a serious problem which has many aspects, among these being the nursing and medical care, and the social and legal problems which develop later. Efforts should be made to try to minimize the possibilities for the development of this posttraumatic syndrome. Some possible ways are to: (1) minimize to the patient from the beginning the seriousness of his injuries, (2) make him ambulatory as soon as safe, (3) try to keep lawyers and investigators away during the sick period, (4) try to assist in a more gradual return to strenuous activity, but avoid frightening him with warnings of impending headaches, etc. In our efforts to protect our patients, we are apt to make neurotics out of many; and society and the legal processes in vogue have made their neuroses more fixed and incurable. It has been proved by experience in other states, notably New York City, that the results are much better if all such cases are handled, out of courts, by panels of experts somewhat similar to the industrial commissions. Our State should give careful consideration to this more modern method of handling all traumatic cases.

In summary, the care of craniocerebral injuries will continue to be a problem which calls for the combined efforts of physicians and surgeons, neurosurgeons, and good nurses, and in which the end results will be improved only when there is a more enlightened conception on our part, as well as by the laity and legal profession, of the psychosomatic aspects of trauma.

Renal Surgery in a Respirator-Dependent Poliomyelitis Patient

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Probably no major surgical operation can be considered to be wholly without risk. Nevertheless, a surgeon today is usually able to undertake with equanimity any of the more familiar operative procedures and to feel fairly confident of achieving a satisfactory result, provided he is treating a patient who possesses ordinarily good general health and vigor. Should he have occasion to consider for major surgery a poliomyelitis victim who has been almost totally incapacitated for many months and who has depended upon artificial respiration almost continuously, the usual surgeon could scarcely fail to be disturbed, to some degree, by the painful awareness that practically any sort of surgical procedure involves a high risk for such a patient. The operation, itself, would create peculiar problems and hazards, but those of the postoperative period could well prove to be even more serious. Such a patient would be abnormally susceptible to the development of severe pulmonary disorders, particularly, and should such complications arise in such a patient he would certainly be peculiarly vulnerable to the impairments of vital functions that would occur.

Possibly there have been a good many poliomyelitis cripples who have successfully undergone a good many forms of surgical treatments. However, in our review of American medical literature of the past 15 years, we have been able to find a surprisingly small number of detailed reports of cases in which major surgery was successfully accomplished on a completely paralyzed patient.^{1,2,3} This comparative paucity of reports of this kind led us to believe that our experiences, even though with but one patient, might be of interest to other physicians.

During the prolonged course of this patient's invalidism there came a time when it was necessary to decide whether or not to subject him to pyelolithotomy. Bilateral nephrolithiasis was present; it was gradually but steadily becoming more extensive and it constituted an increasingly greater threat to the patient's survival. It probably is generally appreciated that any individual who remains totally immobilized for a prolonged period of time, regardless of what may have been the cause for the immobility, is peculiarly likely to develop urinary calculi.⁴ Especially is this the case with persons long

immobilized in the supine position. Mere stagnation of urine in dependent renal calices is probably as much responsible for this complication as is anything else, and therefore a plan of turning such a patient regularly and frequently, back and forth from supine to prone, is a widely recommended preventive measure. In spite of this and all other preventive measures thus far developed, a considerable proportion of individuals who survive the development of a completely paralytic condition will eventually develop urinary stones. In these cases it would seem inevitable that for some there would come a time, as happened in our case, when either elective or emergency operation would be the only possible means of prolonging life.

CASE REPORT

J. T., white male, aged 21, was admitted to the Veterans Administration Hospital, Togus, on September 23, 1953, 48 hours following the onset of the present illness. Within 33 hours from the time when the patient first began to feel ill, paralysis of the lower extremities developed. Muscular weakness that soon became complete paralysis progressed rapidly cephalad, so that within a few hours all voluntary musculature below the base of the neck became totally incapable of movement, with the insignificant exception that feeble dorsiflexion of the feet could still be accomplished. The respirations were rapid (34) and shallow and the patient's obviously anxious appearance attested to his sense of impending asphyxia. On admission his vital capacity was about 800 cc.; a few hours later it was 200 cc. and on the following day it was 0. The patient was immediately placed in an Emerson tank respirator and thus began a prolonged clinical history which is still being written. It provides many elements of interest but in this discussion we shall limit ourselves almost entirely to its urological aspects.

The patient experienced difficulty in voiding from the outset. This made the use of an inlying urethral catheter obligatory and the inevitable urinary tract infection developed in time, with *B. proteus* and *staphylococci* as the predominant organisms found in urine cultures. Extensive treatment with suitable antibiotics and urinary antiseptics was required to combat this complication. On one occasion, bilateral costovertebral tenderness was noted.

After 7 months of hospital care the patient was still almost completely dependent upon mechanical respirators and his vital capacity was about 100 cc. He was transferred to the Mary MacArthur Respirator Unit of the Boston Children's Medical Center for specialized care and training. During the 8 months he remained there, there was some very gradual and slight recovery of muscle power and this small improvement, together with his acquiring some proficiency in the technic of "frog breathing", had made it possible for him to support himself without artificial assistance for periods up to 12 hours, under the most favorable conditions. Vital capacity increased

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to 400 cc. Hematuria occurred on several occasions and periodically repeated pyelographies showed progressing bilateral nephrolithiasis. Renal function remained good on the right but was becoming impaired on the left. The left renal calculus tended to migrate from pelvis into upper ureter and back into kidney again, without ever actually obstructing the outflow of urine to the bladder.

Fifteen months after the onset of paralysis the patient returned to Togus. Measures intended to curb further calculus-formation were put into effect at once. These included frequent changes of position, constant high intake of fluids and the regular use of urinary antiseptics, Basaljel and acid sodium phosphate as an acidifying agent. However, during the ensuing months the patient frequently complained of left abdominal pains, of varying severity. Serial pyelography showed that a second calculus had developed in the left kidney; both stones were about the size and shape of olive pits. One still was capable of migrating between renal pelvis and upper ureter. The right renal pelvis appeared to be nearly filled with calculus. In spite of the extensive bilateral lithiasis, both kidneys continued to function satisfactorily. The massive stone-formation in the right kidney, however, was believed to provide a rather urgent reason for taking measures to prevent further structural and functional damage in the left kidney. The latter appeared to be the one upon which eventually the patient might largely have to depend. Furthermore, the disease on the left was distinctly symptomatic, and the patient's complaints persisted. Thus, in November, 1955, the decision to remove the stones from the left kidney was made.

At that time the patient had been paralyzed for 26 months. He probably had not made any significant degree of progress toward real recovery during the preceding year. As the results of improved psychological adjustments and, perhaps, of a diminution of his basic requirements for oxygen, due, in turn, to the extreme muscle-wasting that had taken place, he had the ability to support his breathing and remain fairly comfortable for intervals of several hours daily. However, his vital capacity appeared not to exceed 350 cc. and more than half of his life was spent, of necessity, with either the rocking-bed or the Huxley type of chest-cuirass respirator.

On November 30, 1955, the patient was taken to the Operating Room without receiving any preoperative medication. His prolonged hospital-life had made him well acquainted with all of the individuals involved in the procedure and, fortunately, his confidence in them was implicit. He gave little or no evidence of anxiety and required no respiratory assistance after leaving the ward. However, during that time he was always under close observation and assistance could have been given promptly had any indications of distress appeared. As soon as he had been placed on the operating table a needle was affixed into a vein for the infusion of saline solution, with a 3-way stopcock interposed between tubing and needle to permit the administration of an intravenous anesthetic. Pentothal was injected slowly by this route until consciousness was lost, and at the same time nitrous oxide and oxygen, in equal volumes, were administered with the face mask by manually compressing and releasing the reservoir bag of the anesthesia machine, at a rate synchronized with the patient's own respirations. The degree to which the latter were accomplished much more by volition than is normal, became evident in the way in which spontaneous respiration practically ceased altogether as soon as consciousness was interrupted. The patient being asleep, the lungs were fully inflated several times, temporarily to increase alveolar oxygen-content; succinylcholine chloride (Anactine), 20 mg., was given intravenously to abolish laryngeal activity; the larynx was sprayed with 1% Pontocaine solution and a cuffed Magill airway was inserted into the trachea and connected to the anesthesia machine. Thereafter, throughout the operation, controlled respiration was maintained. The absolute absence of muscular activity in

the operative field made it possible to use very light anesthesia without difficulty, since merely abolishing consciousness was the major effect desired. The nitrous oxide-oxygen mixture was provided continuously and small doses of Pentothal were given intermittently, whenever signs indicating a need for deeper analgesia were noted.

The anesthetized patient was turned to the usual side-position for kidney operation and an X-ray film was exposed to determine the positions of the stones at that time. This showed both to be in the renal pelvis. Through an extra-peritoneal lumbar incision the kidney was exposed and a small incision was made into its pelvis. The stones were readily accessible and quickly removed. The pyelotomy was tightly closed with fine chromic gut and the operative wound was sutured in layers, as usually, with two Penrose drains emerging at its posterior angle. Total operating time was 67 minutes.

As the operation was about to end, anesthesia was discontinued and artificial respiration of air was begun with the manually operated Kreiselman bellows-apparatus.⁵ The patient was not moved until he had fully recovered from anesthesia, which required but a few minutes and was associated with no distress other than transient and slight nausea. The hand-operated respirator was used until the patient was fully re-established in the tank-respirator and its operation had begun. A transfusion, begun late in the operation, was still dripping slowly and the tubing was led into the tank through a split-cork aperture in the headplate. The respirator was set at pressures of -10 mm. and +5 mm. of Hg, for inspiration and expiration, respectively. When the patient's comfort had apparently been satisfactorily assured, he was turned over to the nursing staff for further immediate care.

During the ensuing hour or so, the patient became increasingly insistent about several complaints that had at first been comparatively mild and thought to be no more significant than are those often present immediately after major operations. After a time, however, it became obvious that the patient's increasing apprehension was associated with increasing respiratory difficulty and severe abdominal discomfort. Feeling that flexion of his thighs would relieve the latter, he requested more and more elevation of his knees. As his complaints became more urgent his appearance and behavior changed accordingly. He grew pallid; his pulse accelerated considerably but depreciated in quality; the skin of his face became cool and "clammy" to touch; finally he seemed to be in shock. Consciousness became clouded; responses to spoken words grew more and more difficult to elicit; at last he seemed to be stuporous. After these untoward conditions were recognized as seriously significant, they so rapidly grew worse that when the patient was next seen by doctors his condition was distinctly unfavorable.

The shock-like state and complaints of abdominal distress created initially a suspicion of massive hemorrhage from the wound, but examination disclosed nothing else suggestive of such an occurrence. The notable finding was extreme distension of the upper abdomen, the wall of which was hard from underlying pressure and drum-like when percussed. Because paralytic ileus could hardly have developed to such a marked degree with such rapidity, it was apparent that acute, extreme gaseous dilatation of the stomach had occurred.

Gastric intubation was done immediately, and the Levin tube was connected to a Wangenstein constant-suction apparatus through an interposed "bubble-bottle" to permit easy observation of the results. A large volume of air was rapidly withdrawn from the stomach and, concomitantly, steady improvement in the patient's condition was noted. Within a very few minutes he was again fully alert and able to report complete relief from the severe respiratory oppression and abdominal distress. As soon as the gastric inflation was detected, the respirator settings were promptly changed to -5 mm. and +10 mm. Hg for inspiration and expiration, respectively.

These levels were maintained for several hours and the Levin tube was left in place for about 36 hours, as precautionary measures.

Except for this acute episode immediately after operation, the first postoperative week was quite uneventful. With the hope of preventing atelectasis or other pulmonary complication, several treatments were given with the "Coflator,"—a device for producing a strong, explosive expiration to simulate a vigorous cough. The discomfort that it produced soon caused it to be discontinued. There was no urinary drainage from the wound, which healed satisfactorily except for the appearance of a small hematoma that required evacuation. On the fourth postoperative day the patient was removed several times from the respirator, for periods that were successively increased from 10 to 60 minutes. On the sixth postoperative day he was transferred from the tank to the rocking bed.

During the next 10 days his general condition seemed gradually to worsen although the day-to-day changes were slight and indefinite. It required their cumulative effect, over a period of several days, to give cause for real concern. During this period on the rocking bed the patient gradually again became apprehensive, had increasing difficulty in sleeping, speaking and swallowing, and his pulse rate rose. On the tenth day of this period he became cyanotic, cold and clammy; the pulse was excessive (up to 160) and again he was critically ill. He was transferred back to the tank-respirator. Physical signs were somewhat suggestive of incomplete aeration of the right lung and X-ray and bronchoscopic examinations were done immediately. Neither indicated any abnormality. In the respirator the patient's condition rapidly improved and he completely regained his normal color, composure, breathing, speech and mental alertness.

It appeared certain that during the 10-day period on the rocking bed, it failed to provide quite enough pulmonary ventilation to satisfy basic metabolic needs. Consequently, during this period, the adverse effects of hypoxia and CO₂-retention gradually became more severe.

The tank-respirator was used continuously for a week following this occurrence, with the dome attachment in operation whenever dressings or nursing care required opening the tank. The next week he began leaving the tank for increasingly frequent and long intervals, until it was established without question that the chest-cuirass could provide adequate respiratory support. For some time now he has been making extended visits to his home, resorting to the cuirass as circumstances indicate.

With a satisfactorily functioning left kidney and an unobstructed urinary tract thus assured—for the present, at least—surgery on the other kidney is being deferred. The patient is re-examined regularly and thus far (more than 4 months postoperatively) has developed no new difficulties. No decision regarding further surgery or any other measure in the future can very well be made except as conditions arise that specifically indicate them.

DISCUSSION

From the surgeon's point of view, this one experience has not been sufficient to determine whether conditions within a tank-respirator tend to cause more than average bleeding in an operative wound. But to overcome this tendency as much as possible, the original dressing was applied in a manner to prevent, as far as possible, movement of air beneath it. Our experience demonstrated, to our satisfaction, that the postoperative patient must receive sufficiently prolonged treatment in the tank-respirator to permit him completely to recover from the respiratory handicap imposed by the operation. The resumption of the rocking bed or of periods of unassisted breathing can well be postponed for patients

with such severe handicaps; it is quite unreasonable to expect them to observe timetables that govern the postoperative convalescence of normal individuals. The need fully to replace blood loss is apparent. Finally, it occurs to us that it would be best for the surgeon to be particularly meticulous at every step in an operation upon this kind of patient and to be more than usually attentive to hemostasis especially.

From the anesthetist's point of view, the principal problems of dealing with a paralyzed patient are those of preoperative and postoperative management. Narcotics and sedatives should be omitted or used in minimal dosages. They increase likelihood of inhalation of secretions or vomitus,—a special hazard for the paralytic unable to counteract by effective coughing. The patient should be closely and constantly watched in the Operating Room until fully alert and free of nausea. Most vital of all are measures to assure that the patient's every breath is adequate for his needs. The respiration must be watched and assisted as necessary until the patient is re-established in a tank-respirator. Positive-pressure apparatus of some type must be used for this purpose, but with a paralyzed patient,—particularly one who is sedated or anesthetized—its prolonged use tends usually to cause gastric distension. Gastric dilatation, if severe, disrupts vital respiratory and circulatory processes, through both reflex and mechanical mechanisms. Its prevention in an unconscious paralytic requires the insertion of an endotracheal airway through either glottis or tracheostoma, whenever prolonged positive pressure breathing is employed. Thereby the inflating effect is confined to the respiratory tract only.

The maintenance of operative anesthesia for the paralyzed patient provides no unusual problem. Curariform drugs are now widely used, in conjunction with general anesthetics, for the sole purpose of deliberately paralyzing the patient's voluntary musculature. The anesthetic management of a patient unable to support his respiration is, therefore, a familiar experience. The poliomyelitis cripple, already totally relaxed and therefore requiring no curare, is in some respects less of an anesthetic problem than the normal individual.

Immediately after operation our patient developed the unusual and serious complication of acute gastric dilatation. This must be attributed to his having been placed in the tank-respirator operating at pressures ranging between —10 mm. and +5 mm. Hg. Thus the prevailing intra-tank pressure was somewhat less than ambient (atmospheric) pressure, to which latter the patient's face was exposed. Or, stated in another way, ambient pressure was somewhat greater than the prevailing intra-tank pressure, to which latter the patient's entire trunk was exposed. Thus air would flow, *via* any existing channel, into the tank and any closed compartment of the tank, whenever negative pressures within those spaces were created. The respiratory and digestive tracts of the respirator-patient are, essentially, compartments of the tank interior, walled off by flexible

partitions that cause them to be subjected to almost the same variations of internal pressure that the tank itself develops. This fact is, of course, the basic principle of the respirator. Atmospheric air passes into the lungs by reason of its being under higher pressure than are the gases within the lungs, whenever negative pressure develops within the tank and, being transmitted to and through the chest wall, creates a comparable negativity of intrapulmonary pressure. The subsequent evacuation of air from the lungs can be accomplished without completely reversing the pressure conditions that caused it to enter, because of the "recoil" action of chest wall and lung. The gastrointestinal tract, however, is much less capable of adapting itself to the sucking action of negative pressure. Ordinarily intrinsic tonic activity of the gastrointestinal musculature is sufficient to overcome the aspirating effect of slightly negative pressure within the tank and to prevent the passage of any significant quantity of air into the stomach. However, a major surgical operation with general anesthesia, particularly one involving any of the principal abdominal viscera, is always attended by some degree of gastrointestinal hypotonicity. This impairment is attributable in part to direct anesthetic action upon the digestive tract. Such action is self-limited and therefore relatively brief; it ceases as the anesthetic drug is eliminated. Considerably more significant is a reflex disturbance of gastrointestinal tone and motility initiated and maintained by stimuli from within and around the operative site, during and after surgical trauma.

We admittedly failed to recognize the potential hazard of placing a paralyzed patient immediately following a major operation, in a tank-respirator with a mean pressure less than atmospheric. Perhaps it is partially extenuating to comment that available medical literature apparently contains no warning about this specific hazard. The pressure settings of -10 mm. and $+5$ mm. Hg used postoperatively for our patient were practically identical with those that had previously supported the patient's respiration satisfactorily and without difficulty, for many months. Nevertheless, when the nature of the complication above described became apparent, the pressure settings were immediately changed to -5 mm. and $+10$ mm. Hg for inspiration and expiration, respectively, to provide a prevailing intra-tank pressure equal to, or perhaps slightly exceeding, ambient pressure. This change coincided with the insertion of the gastric tube and the prompt and rapid withdrawal of

air from the stomach. The latter was, unquestionably, the more important factor in the patient's prompt recovery, but operation of the respirator at pressures which prevent the exposure of a hypotonic stomach to a prevailing pressure less than atmospheric is a precaution we feel should be recommended. Insofar as we were able to interpret this complication and to adduce a reasonable explanation for it, we were satisfied that it occurred because the prevailing intra-tank pressure was slightly below atmospheric. Both lungs and stomach were exposed to the same sustained inspiratory forces, but the stomach was unable to "exhale" the air that entered it. It lacked a freely patent airway like the trachea and it derived no assistance from elastic "recoil" or the effects of gravity, as did the pulmonary system.

We feel that one of the most instructive aspects of this case was the demonstration that a paralyzed patient can rapidly develop severe gastric dilatation following an abdominal operation unless specific preventive measures are taken.

SUMMARY

Totally immobilized individuals are prone to develop renal calculi, and they occur in a large proportion of those who survive several years.

A report is presented of a patient with bilateral renal calculi, upon whom left pyelolithotomy was successfully carried out some 26 months after poliomyelitis had left him totally paralyzed in trunk and extremities and dependent upon respirators for survival.

Some aspects of the anesthetic management of the paralytic are discussed. The occurrence of acute dilatation of the stomach immediately postoperatively is described, and suggestions are offered for the prevention and/or treatment of this and other postoperative complications.

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Recent Experiences in the Management of Recurrent Acute and Chronic Pancreatitis

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In recent years there has been renewed interest in chronic pancreatitis. Much experimental work has been carried out, a number of new operative techniques have been devised, and several large series of cases have been reported. A review of the extensive literature of this subject is beyond the scope of this paper. Instead it is our purpose to briefly summarize some of the prevailing opinions as to the etiology, diagnosis and treatment and to present several interesting case reports. Although the patients admitted to the Togus VA Hospital with this condition have been relatively few in number, it is believed that these case reports will be of interest because of the variety of symptoms which were manifested and because of the variety of operative techniques which were used in their treatment.

Etiology. Although the etiology remains essentially unknown, there now seems to be general agreement that in the vast majority of cases the development of acute or chronic pancreatitis is the result of partial or intermittent obstruction of pancreatic ducts in the presence of an actively secreting gland. Obstruction may result from spasm, infection and edema, fibrosis, mucus plugs, epithelial debris, calculi, or neoplastic growths. The site of the obstruction may be in the pancreatic ducts alone, or in the event of a common biliary and pancreatic passageway, the obstruction may be in the terminal portion of the common bile duct. It now seems likely that a neuromuscular disturbance at the sphincter of Oddi⁽¹⁾ is the cause of most cases of pancreatitis. Obstruction of the ampulla of Vater by a stone⁽²⁾ is thought to be of lesser importance. A common channel is said to exist in about 90 per cent of persons⁽³⁾. And Doubilet⁽⁴⁾ has been able to demonstrate a common channel by direct observation or by operative cholangiography in almost 100 per cent of a large series of cases. The presence of a common channel, however, does not necessarily mean that pancreatitis is the result of biliary reflux. A number of substances other than bile have also been shown to be capable of activating pancreatic trypsin. Furthermore, pancreatitis has been experimentally produced by a number of other methods such as by ligation of the pancreatic duct together with stimulation of the vagus. The concept that recurrent acute pancreatitis may fre-

quently be of psychogenic origin now has wide acceptance. Duodenal spasm, spasm of the sphincter of Oddi and pancreatic hypersecretion all on the basis of autonomic hyperactivity have much in their favor. The improvement of many patients after vagotomy⁽⁵⁾ has lent validity to the concept that psychosomatic factors are of great importance in these patients. Associated biliary-tract disease is common. In some instances it is secondary to the pancreatitis rather than of primary importance. Obstructive jaundice can result from compression by an inflamed and swollen pancreas, and it has been experimentally shown that pancreatic juice can reflux into the biliary system. A number of other factors are also thought to be of etiological importance, and these include dietary indiscretions (high-fat diet, alcoholism), systemic infections (mumps for example), nutritional deficiency (interference with protein metabolism by antimetabolites such as ethionine), vascular factors (anaphylaxis or arteriosclerosis), pregnancy, trauma, and surgical trauma (operative cholangiography, long-arm T-tube, gastric surgery).

Pathologic aspects. When acute inflammation is present over a long period of time or when there are recurring attacks of acute pancreatitis, chronic pancreatitis can then be said to be present. In the acute stage the gland will show varying degrees of edema, congestion, exudation, suppuration, necrosis of tissue, interstitial hemorrhage, and abscess formation. Peritonitis may supervene and pseudocysts may develop in the lesser peritoneal cavity. With obstruction of the pancreatic ducts, stasis and infection take place, and calculi are formed. The pancreatic ducts become dilated, and true cysts may develop in the head of the pancreas and elsewhere. As the acute stage subsides, interstitial and interlobular fibrosis takes place. Localized areas of necrotic tissue are absorbed and replaced by scar tissue. Scattered areas of calcification develop. Regeneration of glandular tissue also occurs during periods of remission from the disease. It appears likely that acute pancreatitis and chronic pancreatitis are often due to the same etiological factors, and this would explain the presence of varying degrees of acute and chronic inflammation in the same gland. We believe that some of the confusion which exists in the literature on chronic pancreatitis is due to the multiplicity of terms which have been used to describe this condition. Some of the more

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popular terms are chronic recurrent pancreatitis, chronic relapsing pancreatitis, chronic sclerosing pancreatitis, and recurrent acute pancreatitis. These terms, are in a sense synonymous as they have been used to describe similar groups of patients.

Diagnosis. In the acute stage the serum amylase or lipase may be found to be elevated. After severe destruction of pancreatic tissue has taken place, evidences of pancreatic insufficiency may be found. A diabetic-type glucose-tolerance curve may be present, and diabetes mellitus may sometimes develop. The history and physical findings are of great importance, and it is helpful if the physician possesses a high index of suspicion. Exploratory laparotomy is sometimes necessary. The diagnosis is more frequently made now than it was years ago, and this is not believed to be due to any absolute increase in the incidence of the disease but due to an increase in interest in the problem. It is widely believed that pancreatitis is present in many patients with biliary dyskinesia and the so-called post-cholecystectomy syndrome.⁽⁶⁾

Treatment. As the exact etiology of pancreatitis has been unknown, the treatment has in the past been highly controversial. It is now generally agreed that during the acute attack or during an acute exacerbation in a patient with chronic pancreatitis the treatment should be nonoperative and supportive. Emphasis should be directed toward the control of pain and the treatment of shock. Morphine is avoided as it causes sphincter spasm. Nitrites may be of value. Gastric decompression is carried out by Levin tube, and oral intake is limited. Antibiotic therapy is administered. Antacid drugs are used to suppress hormonal influences to pancreatic secretion. Antisecretory drugs such as atropine and Banthine are used to suppress the influence of the vagus. Splanchnic blocks may be necessary for the control of pain. Surgery is rarely necessary except for drainage of pancreatic abscess. Acute cholecystitis should be treated by cholecystostomy, and continued jaundice may require common-duct drainage. During remissions between acute attacks a bland low-fat diet is prescribed. Stimulating beverages such as coffee are restricted, and alcohol is prohibited. Insulin may be necessary for diabetes, and replacement therapy with pancreatin may be necessary in the presence of pancreatic insufficiency. Bile salts and vitamins are often prescribed. Psychotherapy may be of value. With recurring attacks of acute pancreatitis, investigation is then carried out to determine the presence of any gastroduodenal or biliary-tract disease. If such is found, appropriate therapy is carried out. If symptoms continue, other operative measures must be considered. (Chart 1). It is evident that operative procedures which preserve normal physiology should be tried before those which result in destruction of tissue (viz.: partial or total pancreatectomy). It is further evident that if only palliative treatment of chronic pancreatitis is undertaken (viz.: interruption of pain pathways) the disease may

TABLE NO. 1
Various Operative Approaches used in the treatment of Chronic Pancreatitis

<i>Operations on Biliary Tract</i>	
Cholecystostomy-Cholecystectomy	
Common-duct drainage	
Dilatation of sphincter of Oddi	
<i>Operations to Prevent Biliary Reflux</i>	
Sphincterotomy, endocholechal and transduodenal	
Division and re-implantation of pancreatic duct	
Division and re-implantation of common bile duct	
<i>Methods to Inhibit Pancreatic Secretion</i>	
Vagotomy (and/or)	
Subtotal gastric resection	
Gastrojejunostomy	
Ligation of duct of Wirsung	
<i>Control of Pain by Division of Sympathetic Nerves</i>	
Thoracolumbar sympathectomy (left, right, or both)	
Splanchnicectomy (left, right, or both)	
Coeliac ganglionectomy	
<i>Excision of Gland</i>	
Partial or total pancreatectomy	
Distal pancreatectomy with anastomosis of distal end of duct to jejunum	
<i>Miscellaneous</i>	
Gastrojejunostomy for duodenal obstruction	
Cholecystjejunostomy for common-duct obstruction	
Marsupialization of pancreatic cyst	
Internal drainage of pancreatic cyst	
Excision of pancreatic cyst	
Removal of calculi from pancreatic duct	

well continue unchecked, resulting in continued destruction of pancreatic tissue and increasing pancreatic insufficiency.

Results of Surgery in Chronic Pancreatitis at VA Hospital, Togus.

During the past 5 years 8 patients with varying degrees of recurrent acute and chronic pancreatitis have been treated surgically at the Veterans Administration Hospital at Togus. A number of other patients including a fourth patient with pancreatolithiasis have thus far received only medical therapy.

CASE NO. 1. *Recurrent Acute Pancreatitis Treated by Dilatation of the Sphincter of Oddi and T-tube Drainage.* G. G., a 35-year-old grocery-store clerk, was admitted on 5-6-55 with intermittent, upper abdominal pain, nausea and vomiting of 6 months' duration. In December of 1953 a subtotal gastrectomy had been carried out for duodenal ulcer. Ulcer symptoms had been present for approximately 10 years, and he had had melena on several occasions. For one year following gastrectomy he was free of symptoms except for slight dumping syndrome. He then began to experience intermittent upper abdominal discomfort, nausea and vomiting. Because of the severity of these symptoms he was admitted to the hospital on 3 different occasions. The serum amylase was found to be high on each occasion, and on one occasion flat films of the abdomen showed 2 loops of slightly dilated small intestine. Glucose-tolerance tests, starch-tolerance tests, and stool examinations were normal. After 3 such episodes,

on 5-1-55, exploratory laparotomy was carried out. The liver and gall bladder appeared normal. The pancreas was small and firm. The cystic duct was small and tortuous, and the common duct appeared of normal size. There was a patent anterior gastrojejunostomy. Operative cholangiography demonstrated a normal biliary system with an elongated common channel. The pancreatic duct was well visualized. Dilatation of the sphincter of Oddi was then easily carried out with Bake's dilators, and the common duct was trained with a T tube. His post-operative course was complicated by a low-grade wound infection, which responded to conservative treatment and antibiotics. The T tube was removed in 2 weeks. It is now 11 months since operation, and there have been no further attacks of acute pancreatitis.

CASE NO. 2. *Intractable Acute Pancreatitis, Treated by Transduodenal Sphincterotomy.* J. D., a 31-year-old truck driver, was admitted to the hospital on 7-30-54 with a chief complaint of intermittent attacks of severe epigastric pain, with radiation through to the back of two and one half months' duration. There was a weight loss of 20 pounds. He gave a past history of essential hypertension, and for 2 or 3 years prior to admission he had been in the habit of taking several bottles of ale every night. On examination he was seen to be poorly nourished, and there was severe epigastric tenderness. G. I. series showed a duodenal deformity without a niche, and a flat plate of the abdomen showed absence of properitoneal fat line and other findings suggesting an increase in intraperitoneal fluid. The serum amylase on admission was 251 and the sedimentation rate 60. A provisional diagnosis of acute exacerbation of chronic pancreatitis was made, and a conservative plan of treatment was outlined. His response to therapy was poor, and the abdominal pain and

tenderness continued without remission over a period of 2 months. During this time the sedimentation rate varied between 60 and 110, and the serum amylase between 240 and 415. There was a further weight loss of 11 pounds. As the patient's disease appeared to be refractory to all types of conservative therapy, exploratory laparotomy was carried out on 9-30-54. At operation the pancreas was found to be coarsely nodular and of a firm rubbery consistency. The head of the pancreas was slightly enlarged. The adjacent tissues were markedly edematous, and the blood vessels were injected. The soft tissues surrounding the portal triad were indurated. The lesser sac was obliterated. The common duct was small and the walls seemed thickened and edematous. There was an anomalous cystic artery which crossed anteriorly to the common duct as well as to the cystic duct. The sphincter of Oddi was thick-walled, fibrous, and about 1 cm. in diameter. It would not admit a probe, but fluid could be injected through it. Under direct vision the sphincter was first dilated and then divided with scalpel and scissors. After this was done the larger Bake's dilators could be passed with ease. The pancreatic duct could not be visualized. The common duct was then drained with a Cattell tube. Response to surgery was dramatic and rapid. The T tube was removed 10 weeks after operation, and by three months after surgery the patient had regained 20 pounds. There were no further symptoms of pancreatitis, and the patient has now been followed for a period of one year and six months. Operative cholangiogram was unsatisfactory.

CASE NO. 3. *Recurrent Acute Pancreatitis, Postcholecystectomy Syndrome, Treated by Transduodenal Sphincterotomy.* A. S., a 34-year-old male, was first admitted to the Togus VA Hospital on 12-18-54. In the fall of 1951 he had experienced

TABLE NO 2
Findings at Operation
Recurrent Acute and Chronic Pancreatitis
VA Hospital, Togus, Maine, 1950-1955

		Gall Bladder	Common Duct	Pancreas	Sphincter	Common Channel	Pancreatic Juice	Localized Peritoneal Inflammation
1.	G.G.	Normal	Slightly small	Normal	Normal	Yes	Not examined	No
2.	J.D.	Normal	Small	Slightly large, firm	Tight	Not seen	Not seen	Yes
3.	A.S.	Out	Large, distal 3 cms. small	Large, firm	Tight	Yes	Cloudy, fibrin	Yes
4.	J.E.	Normal	Normal	Large, firm	Tight	Not seen	Not seen	Yes
5.	L.L.	Normal	Normal, distal 3 cms. small	Large, firm	Tight	Yes	Not seen	No
6.	L.G.	Normal	Normal	Large, firm cystic	Tight	Yes	Cloudy, calculi	Yes
7.	W.H.	Dilated	Dilated. Distal duct not examined	Large, firm	Not examined	Not examined	Not examined	No
8.	E. McL.	Normal	Normal	Very large and firm	Not examined	Not examined	Not examined	Yes

an attack of right-upper-quadrant pain for which cholecystectomy had been performed in another hospital. At this operation the pancreas was found to be enlarged and firm. He was then relatively free of symptoms for about 18 months, after which he commenced having intermittent episodes of epigastric pain with radiation through to the left posterior thoracic region. For 6 months prior to admission to Togus he also experienced pain in the right upper quadrant. On 3 separate occasions during the 6 months prior to admission there were severe attacks of right-upper-quadrant pain associated with jaundice and elevation of serum amylase. He said that these attacks of pain were similar to the attack of pain he had had in 1951 prior to removal of his gall bladder. The patient admitted drinking several bottles of beer every day with whiskey on weekends for many years. There was a family history of diabetes. On physical examination there was moderately severe epigastric tenderness. The sedimentation on rate was 58; serum amylase, 165 and 226; alkaline phosphatase, 15.6; serum bilirubin, negative. Glucose-tolerance tests showed a diabetic curve, and starch-tolerance tests showed a low curve suggestive of pancreatic insufficiency. Exploratory laparotomy was carried out on 1-13-55. Glisson's capsule was greatly thickened, and the liver seemed slightly enlarged. The duodenal loop was moderately widened. The pancreas was firm, nodular, and almost 3 times normal size. The gall bladder was out, and the common duct itself was approximately the size of the index finger. Operative cholangiography demonstrated extreme narrowing of the distal 3 cms. of the common bile duct. A common channel could not be demonstrated. The sphincter was firm, fibrous, and narrowed so as to admit only the smaller size Bake's dilators with great difficulty. Shortly after division of the sphincter, there was an outpouring of pancreatic juice, which was cloudy and contained flecks of fibrin. The pancreatic duct was probed for a distance of 3 to 4 cms. No pancreatic stones were encountered. A loosely fitting Cattell tube was then left in place and the wound closed. Eight weeks later there was an episode of mild upper abdominal pain, nausea and vomiting similar to the attacks he had experienced prior to surgery. The serum amylase, which had fallen to 45 shortly after operation, rose to 165; and the sedimentation rate, which had fallen to 58, rose to 92. It was our impression at this time that there was recurrent mild pancreatitis, probably caused by pressure of the long-arm T tube, with temporary blockage of the opening of the pancreatic duct. The T tube was removed. The patient has now been followed for a period of 14 months, and he has had no subsequent attacks of abdominal pain. He does have a mild diabetes mellitus, which has been controlled by diet.

CASE NO. 4. *Chronic Pancreatitis with Pancreatolithiasis Treated by Transduodenal Sphincterotomy and Bilateral Thoracolumbar Sympathectomy and Splanchnicectomy.* J. E., age 42, the father of 9 living children, was admitted to the hospital on 6-30-50 with vague upper abdominal pain of 5 years' duration. Symptoms had become severe about 7 months before admission, with radiation of the pain around to each flank and into the back at about D-8 or D-9. There was a 30-pound weight loss. There was a history of chronic alcoholism. On physical examination there was moderate epigastric tenderness. The amylase on admission was 155; sedimentation rate, 30. Flat plate of the abdomen showed pancreatolithiasis. Stool examinations showed no evidence of pancreatic insufficiency. Exploration was carried out on 9-28-50. The gall bladder was found to be thin-walled and there were no stones. The common duct was not dilated. The pancreas was enormously enlarged and firmly indurated throughout its entire length. There were dense adhesions to surrounding structures. The head of the pancreas was approximately the size of a baseball. A probe was passed through the anapulla of Vater with great difficulty. Transduodenal sphincterotomy was carried out, and a long-arm T tube was left in place. Because of continued pain during the immediate postoperative period, surgery for the

relief of pain was decided upon. Accordingly, one month after sphincterotomy, on 12-1-50, a left thoracolumbar sympathectomy and splanchnicectomy was performed. On 1-19-51 a similar procedure was carried out on the other side. Convalescence from these operations was uncomplicated. He was seen frequently during the next 2 years, and after recovery from the operation there were no further symptoms of pancreatitis. At the present time he is hospitalized elsewhere for chronic pulmonary tuberculosis, and word has been sent to us that he remains free of all symptoms either of acute pancreatitis or of pancreatic insufficiency.

CASE NO. 5. *Chronic Pancreatitis, Pancreatolithiasis, and Pancreatic Insufficiency, Treated by Transduodenal Sphincterotomy, Left Thoracolumbar Sympathectomy and Splanchnicectomy, and Replacement Therapy.* L. L., a 27-year-old store clerk, was admitted to the hospital on 9-17-51 with a 7-year history of mild epigastric distress and a 4-year history of severe abdominal pain, with radiation through to the back and alternating periods of constipation and diarrhea. The attacks would occur every 3 to 4 months and last for several days. They were frequently associated with nausea and vomiting, and in the months prior to admission he had lost about 20 pounds in weight. He stated that he would have from 6 to 8 diarrheal stools a day, most of them light-colored, bulky, and oily. He also stated that in the interval between attacks he would have a voracious appetite and become weak and tired quite easily. On physical examination there was moderate epigastric tenderness. Stool examinations showed the stools to have a high fat content and to have undigested meat fibers. Amylase levels were recorded from 63 to 155. X-rays of the abdomen showed pancreatolithiasis. On 4-3-52 exploration was carried out. The liver was normal, the gall bladder was thin-walled and flabby, and there were no biliary calculi. It emptied easily. The common bile duct was very small. The pancreas was found to be enlarged, firm, and nodular throughout. A large firm mass could be palpated in the head of the pancreas close to the surface of the pancreas, and another firm mass in the tail. Operative cholangiography was done, and this failed to reveal a common channel between common bile duct and pancreatic duct. A large calculus was seen close to the common duct; but as it could not definitely be demonstrated in the pancreatic duct, it was felt unwise to attempt to remove it. The sphincter of Oddi was found to be tight. Transduodenal sphincterotomy was then carried out, and a small-calibre, ordinary T tube was placed in the very small common duct. Postoperative convalescence was uncomplicated. Approximately 4 weeks after operation there was a severe attack of abdominal pain similar to that which had occurred prior to operation. This one however was also associated with chills and fever, and culture of T-tube bile revealed *B. coli*. The attack was thought to be due to cholangitis and also possibly recurrent acute pancreatitis. The serum amylase was 152, and the serum bilirubin was indirect 2.1, direct 0.8. He was treated conservatively. There were no further acute episodes of this nature, and on the 26th of June, approximately three months after operation, the T tube was removed. In the months that followed he continued to have dull left abdominal pain with radiation through to the back and, less frequently, pain in the right upper quadrant. Every one to two months he would also have rather severe attacks of abdominal pain, similar to those he had had prior to operation but of much shorter duration and not requiring hospital admission. The patient stated that he had been definitely improved by operation, the attacks now being less severe and less frequent. The oily diarrhea, however, remained the same, and stools would average from 4 to 6 a day. On rare occasions he would have from 9 to 10 stools a day. Abdominal tenderness also continued, but it was much less severe than it had been before. He soon regained all of his lost weight and he returned to part-time work. During this period he received replacement therapy for his pancreatic insufficiency, and for several trial periods he

TABLE NO. 3

Results of Treatment
Recurrent Acute and Chronic Pancreatitis

VA Hospital, Togus, Maine, 1950-1955

Name & Age	Diagnosis	Alcoholic Hist.	Anxiety Tension etc.	Duration of Symptoms	Pre-op. Amylase	Surgical Therapy	Length of F.U.	Result
G.G. 35	Recurrent acute pan- creatitis	—	+	6 mos.	Elevated	Dilatation of sphincter of Oddi, common-duct drainage	11 mos.	Exc.
J.D. 31	Intractable acute pan- creatitis	+	+	4½ mos.	Elevated	Transduodenal sphincterotomy	19 mos.	Exc.
A.S. 34	Recurrent acute pancreatitis, + intermittent jaundice, Post- chol. syndrome, Diabetes mel- litus (mild)	+	—	18 mos.	Elevated	Transduodenal sphincterotomy	14 mos.	Exc.
J.E. 42	Chronic pancreatitis, Pancreatolithiasis	+	+	5 yrs.	Slightly elevated	1. Transduod. sphincterotomy 2. Bilat. thoracolumbar sym- pacthectomy & splanchnicectomy	1 mo. 5 yr. & 5 mos.	Poor Exc.
L.L. 27	Chronic pancreatitis, Pancreatolithiasis, Pancreatic insufficiency, Diabetic glu. tol. curve	—	+	5 yrs.	Slightly elevated	1. Transduod. sphincterotomy 2. Lt. thoracolumbar sympa- thectomy & splanchnicectomy	28 mos. 19 mos.	Fair Good
L.G. 44	Chronic pancreatitis, pancreatolithiasis, Pancreatic cyst	+	+	10 yrs.	Elevated	1. (P.G.E. — Vagotomy (Cholecystjejunostomy) 2. (Pan. Cyst-jejunostomy (Transduod. sphincterotomy	6 mos. 1 yr. & 7 mos.	Fair Exc.
W.H. 59	Chronic pancreatitis, Obstructive jaundice, Obesity	+	+	3 mos. (?)	Normal	Cholecystjejunostomy	5 mos.	Good
E. McL. 68	Chronic pancreatitis, Duodenal obstruction, Diabetes mellitus (mild)	+	—	2 mos. (?)	Not done	Anterior gastroenterostomy	2 yrs. & 5 mos.	Exc.

also received Banthine and Pro-Banthine, which apparently gave some palliation. After a period of 2 years and 3 months he was then finally readmitted to the hospital for further surgical therapy. It was felt that although there had been definite improvement in his general health, together with diminution in the severity of his symptoms following sphincterotomy, the chronicity of the left-upper-quadrant pain with radiation through to the back had been such as to prohibit the patient from attaining maximum rehabilitation. After admission to the hospital, a left paravertebral block was done, and this was followed by satisfactory relief of pain. A left thoracolumbar sympathectomy (T-9 through L-1) and splanchnicectomy was then carried out on 8-23-54. Following this operation he has continued to have slight epigastric tenderness and occasional discomfort in the right upper quadrant, associated with some nausea. These symptoms had been present ever since his exploratory laparotomy and transduodenal sphincterotomy. However he now no longer has severe left-upper-quadrant pain with radiation through to the back. Response to this last operation has been considered "good." He has now become economically rehabilitated, and the patient is well pleased with the results of his surgery.

CASE NO. 6. *Chronic Pancreatitis, Pancreatolithiasis, Pancreatic Cyst, Treated by Transduodenal Sphincterotomy, Vagotomy, Cholecystjejunostomy, Pancreatic-jejunostomy, and Gastrojejunostomy.* L. G., a 44-year-old traveling salesman, was admitted to the hospital on 12-28-53 with a 10-year history of intermittent upper-abdominal distress. For approximately 4 months prior to admission there had been exacerbation of symptoms associated with nausea, vomiting, and weight loss. There was a history of moderate alcoholic indulgence. Three weeks prior to admission, on 12-7-53, exploration had been carried out in another hospital with the provisional diagnosis of perforated peptic ulcer. At operation, perforation was not found, and he was thought to have a posterior-wall duodenal ulcer with penetration of the pancreas. Conservative therapy while at Togus, over a period of several months, failed to result in clinical improvement. Re-exploration was then carried out on 2-23-54 with the provisional diagnosis of intractable duodenal ulcer. A G. I. series had been interpreted as showing a duodenal ulcer, and the patient had continued to complain of intermittent abdominal pain, nausea, and vomiting in spite of ulcer therapy. At operation the stomach and duodenum were mobilized and gastrotomy was performed, but no evidence of ulcer could be found. There was, however, marked peritoneal inflammation in the vicinity of the head of the pancreas, and the pancreas itself seemed to be firm and rubbery. The head of the pancreas was about 12 cms. in diameter. The liver was normal. The gall bladder was distended and could not be made to empty. The wall of the gall bladder was slightly thickened but no stones could be felt. The common duct appeared to be normal. Aspiration of the head of the pancreas was then carried out, and about 40 cc. of pancreatic juice was obtained. This did not diminish the size of the pancreas appreciably. It was felt that there was a retention cyst or dilatation of the duct of Wirsung and that it was probably related to pancreatitis. As the process seemed to be acute, it was elected not to directly attack the sphincter of Oddi at this operation. Therefore a subdiaphragmatic vagotomy, a gastroenterostomy, and a cholecystenterostomy were carried out. This, it was felt, would be good treatment for pancreatitis according to one school of thought and at the same time would be good treatment for duodenal ulcer if one had been present but had not been seen or had healed during the period of medical therapy. Cholecystenterostomy was also carried out as the gall bladder did not empty and as the size of the head of the pancreas suggested that there might be some obstruction of the biliary system. There was some clinical improvement following this operation although he continued to have intermittent attacks of epigastric pain, which would occur every 10 days to 2 weeks. He was treated

palliatively during these attacks of pain, and as during this interim period it was mandatory that he receive treatment for bilateral glaucoma, further surgery was not carried out for several months. On 8-19-54 re-exploration was carried out. At this operation, the gall bladder was normal, and the cystic duct was slightly larger than normal, as was the common duct. The common duct contained golden-yellow bile; the jejunal loop and cholecystjejunostomy appeared normal. The head of the pancreas was enlarged as before, and there was a spherical cystic mass within the head of the pancreas about the size of an orange. Aspiration revealed turbid yellowish fluid. The tail and body of the pancreas were normal. One tenth normal HCl was introduced into the duodenum, and operative cholangiography was carried out. The dye was found to fill the common duct and gall bladder, but no dye was seen to enter the duodenum, and the pancreatic duct was not visualized. After several unsuccessful attempts to pass a probe into the duodenum, the duodenum was then opened and the ampulla exposed. Saline was injected through the sphincter followed by a probe. The ampulla was then dilated, and a sphincterotomy was carried out dividing the sphincter for a distance of approximately 1 cm. The entrance of the duct of Wirsung into the common channel was then demonstrated. Several small calculi were found obstructing the duct, and they were removed with a curette. At this point the cyst became emptied of fluid content, which was of a cloudy, yellowish-amber color with flecks of fibrin and small claculi. A 4-cm. incision was then made into the cyst, and an anastomosis was carried out between the pancreatic cyst and the jejunal loop distal to the cholecystjejunostomy but proximal to the gastrojejunostomy. A loosely fitting Cattell tube was placed in the common duct, the short arm above and the long arm being brought down through the ampulla into the duodenum. Postoperative convalescence was uncomplicated. Serum-amylase levels rapidly dropped to normal, and the sedimentation rate also dropped to normal, as did the serum-calcium and phosphorus levels. The long-arm T tube was left in place for approximately three weeks. A G.I. series taken on 9-23-54 showed normal functioning of the gastrojejunal stoma, and barium was seen to fill the pancreatic cyst. X-ray studies at this time nicely demonstrated the diffuse pancreatic calcification. For the first few months after operation there were occasional attacks of mild abdominal pain lasting for 2 or 3 days. However, during the past year episodes of abdominal pain have greatly diminished in frequency. He now no longer has abdominal tenderness. He also has regained all of his lost weight. Response to surgery is considered excellent.

CASE NO. 7. *Chronic Pancreatitis with Common-duct Obstruction and Severe Jaundice, Treated by Cholecystjejunostomy.* W. H., a 59-year-old obese male personnel officer, was admitted to the hospital on 10-10-55 with a three-months history of malaise, diarrhea, right-upper-quadrant pain, and progressive jaundice. He also complained of severe rectal pain due to fissure-in-ano. There was a 7 to 10-year history of vague epigastric distress relieved by taking alkalies, and there was a history of moderate daily alcoholic indulgence over a period of many years. There was a 3-year history of coronary disease. On physical examination there was enlargement of the liver to palpation with right-upper-quadrant tenderness. Laboratory studies revealed evidence of obstructive jaundice without evidence of hepatitis. The gall bladder was palpable. On 11-8-55 an exploratory laparotomy was carried out. A large thin-walled gall bladder 3 times normal size was found, and there was a dilated common bile duct. The pancreas was found to be enlarged, firm and nodular. The common bile duct was approximately 3 times normal size. No enlarged lymph nodes were seen. The clinical impression was carcinoma of the head of the pancreas. As jaundice had been present for several months, it was decided to decompress the biliary system rather than do a radical pancreatoduodenectomy at this time. Accordingly, an end-to-side cholecystjejunostomy was carried out. Ex-

cision of fissure-in-ano was carried out on 12-2-55, and on 1-19-56 re-exploration was performed. The pancreas was found to be the same size and consistency as at the first operation. Two biopsies were taken from the head of the pancreas, and frozen section revealed chronic pancreatitis. An entero-enterostomy was performed in order to prevent reflux of fluid up the biliary tree, and the patient's wound was closed. Permanent sections confirmed the diagnosis of chronic pancreatitis. A biopsy of the gall bladder taken at the first operation showed evidence of chronic cholecystitis, and a liver biopsy showed obstructive hepatitis. The Postoperative course was uneventful, and at the present time, five and a half months after operation, the patient's appetite is good, his weight is constant, and his only symptoms are those of occasional abdominal distention and vague abdominal pain, brought on by fatty foods and relieved by belching and passage of flatus. Obstructive jaundice in this patient is believed to have been due to constriction of the common duct from the extensive pancreatic disease. The gall bladder did not contain any calculi, and the negative biopsies and subsequently benign postoperative course lead us to believe that our original impression of carcinoma of the pancreas was in error.

CASE NO. 8 *Chronic Pancreatitis with Duodenal Obstruction and Intractable Vomiting Treated by Anterior Gastrojejunostomy.* E. McL., a 68-year-old man, was admitted to the hospital on 8-28-53 with a two-months history of vague abdominal distress, weight loss, and intractable vomiting. A benign gastric ulcer and cirrhosis of the liver had been diagnosed clinically on previous admissions to the hospital. There was a past history of alcoholism and a family history of diabetes mellitus. Gastrointestinal X-rays at this admission showed a severe duodenal obstruction and a tremendous widening of the duodenal loop. Exploration was carried out on 9-28-53. The head of the pancreas was tremendously enlarged, and this had resulted in almost complete obstruction of the distal portion of the duodenum. There was, however, no apparent obstruction of the common bile duct, and the gall bladder was soft and compressible. The peritoneal surfaces in the vicinity of the pancreas were inflamed, and the lesser omental cavity was obliterated with adhesions. The clinical impression was carcinoma of the head of the pancreas, and as the tumor was of

such extreme size it was felt that radical surgery was contraindicated. Anterior gastroenterostomy was carried out and the wound was closed. Following operation there was surprising, as well as gratifying, relief of symptoms. Several months later, as the patient had developed several draining sinus tracts from retained suture material, an opportunity was afforded to reinspect the pancreas. At this operation the pancreas was found to be of normal size. This patient has been followed now for approximately two and a half years, and except for the development of mild diabetes his subsequent course has been completely benign. We now feel that the patient had chronic pancreatitis and that our clinical impression of carcinoma of the pancreas was in error.

SUMMARY AND CONCLUSIONS

A review has been made of some of the prevailing opinions on the pathogenesis and treatment of chronic pancreatitis. Eight case reports have been presented in order to demonstrate different phases of the problem, and to further demonstrate some of the different operative approaches which have been successfully used in the treatment of this disease.

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Erythema Multiforme Exudativum

(Stevens-Johnson Syndrome)

(REPORT OF A CASE)

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There is considerable confusion attached to this entity because of a multiplicity of descriptive names. Hebra⁽¹⁾ in 1866 described as erythema multiforme exudativum an entity of fever, polymorphous skin lesions⁽¹⁾ and a few systemic signs. Stevens and Johnson⁽¹⁾ in 1922 reported 2 extremely ill children who had an eruptive fever with stomatitis and ophthalmia. Thomas divided the cases into the milder Hebra type and the most severe Stevens-Johnson type. He called these types minor and major. Behcet's disease, Reiter's disease, ectodermosis erosiva pluriorificialis, and Stevens-Johnson's syndrome have all such pronounced similarity that they are likely to be variants of the same disease entity which might be named erythema multiforme exudativum. Robinson and McCrumb⁽³⁾ grouped them as the "mucocutaneous-ocular syndromes," (with the possible exception of Reiter's disease).

Erythema multiforme exudativum is an acute febrile, self-limiting process manifested by lesions of the mucous membranes, mainly dermatitis, conjunctivitis, stomatitis and urethralbalanitis and involvement of the respiratory tract⁽⁴⁾.

The seasonal incidence of the disease is stated to be in the months from January to June and in the fall.⁽⁵⁾ It is more common in males. Some authors state it occurs more commonly in the first and second decade,⁽⁵⁾ others in the second and third decade.⁽⁴⁾ It occurs more commonly in white people. Its duration is from a few days to several weeks. It has caused a number of deaths.

Early in the course of the disease vesicles appear on the lips, tongue, mouth and pharynx. These rupture to form a friable pseudomembrane. When this is removed ulcerations are left behind that bleed easily. Chewing and swallowing is difficult because of fissures, bleeding and pain. Later crusting and patches of new mucous membrane appear.^(4, 6) Recovery in two or three weeks is the usual.⁽⁴⁾ The dermatitis may be macular, papular, annular, iris type, or vesiculobullous. Eruption is chiefly on the extremities, but also involves the trunk and genitalia. In our case the lesions were erythematous with vesicular centers. This type of lesion terminates in crusting, leaves an area of brown

pigmentation that tends to fade slowly over a period of days to weeks.⁽⁴⁾

There may be conjunctivitis with either a mucoid or mucopurulent discharge, sub-conjunctival hemorrhage, keratitis, iritis, uveitis and hemorrhagic neuroretinitis. Later panophthalmia, corneal scarring, symblepharon, and even total loss of vision, may occur.⁽⁷⁾

Urethritis and balanitis may be present.^{(4), (5)} The severity may vary from slight reddening of the urinary meatus to severe ulceration of the glans penis.

The most formidable aspects of the disease are the acute bronchitis and/or atypical pneumonia. Finland⁽⁸⁾ had two fatal cases which had a severe and diffuse atypical pneumonia. These patients had a severe bullous type of erythema multiforme.

The etiology is unknown. Viral origin has been suspected. Finland⁽⁸⁾ and his co-workers obtained a positive complement fixation test for psittacosis in two cases and positive cold agglutinins in three. The virus of human foot and mouth disease, herpes simplex, and mumps has been suspected.⁽⁹⁾ Womack and Randall⁽¹⁰⁾ isolated the virus of herpes simplex in one fatal case. There appears to be a clear relationship at times to Aspirin, barbiturates, sulfonamides⁽²⁾ and Phenolphthalein.⁽⁴⁾

Treatment consists primarily of giving symptomatic relief. Prevention of eye complications by means of wet soaks and Bacitracin ointment,⁽⁴⁾ ophthalmic steroids and antibiotics^{(11), (12)} may be indicated. Because the disease is self-limited the efficacy of any type of specific therapy is difficult to evaluate. Aureomycin, Terramycin may be of value.⁽¹¹⁾ ACTH and Cortisone have given favorable responses in severely ill patients.⁽¹²⁻⁵⁻¹³⁾ One observer⁽⁴⁾ believes that Cortisone and Corticotropin are only valuable for their recognized "tonic" effect in the critically ill patient. He noted no alteration in the usual course of the disease with their use.

Because of the plethora of organ involvement the onset of the condition may be seen by the family physician, dentist, ophthalmologist and urologist. The recognition of the condition is easy if the features of the syndrome are kept in mind. Vincent's angina, infectious mononucleosis, diphtheria, pemphigus, leukemia, gonorrhea, toxic erythema and exanthomas may be initially considered. But with the progressive appear-

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ance of more symptoms the true syndrome usually becomes clear.

REPORT OF A CASE

This 24-year-old road maintenance laborer developed a severe non-productive cough and aching of his back and neck ten days prior to admission.

Approximately seven days prior to admission he noted photophobia, inflammation of both eyes, discharge of yellowish-white material from the penis, and soreness of the mouth. Skin lesions appeared on the abdomen six days prior to admission.

The patient had taken no medication prior to admission. He denied contact with dead birds. Patient's family kept one horse and two heifers. The patient denied any close contact with these. Patient had chickenpox as a child.

On admission to the hospital patient was drowsy and acutely ill. His temperature was 101.4°. He had a severe conjunctivitis and extensive subconjunctival hemorrhages. There was extensive ulceration of the mouth. Ulcerations were covered with a whitish-yellow membrane. When this was removed a granular bleeding surface remained. Also there were small vesicles on the oral mucous membrane. The hard palate was

covered with a white membrane. The undersurface of the tongue was covered with a whitish-yellow membrane that had a dentate configuration. The lips were ulcerated and partially covered with a whitish-yellow membrane.

On the upper extremity, upper back, sacro-iliac region and scrotum and penis were papules and vesicles. The latter were surrounded by erythema. Some of these had ruptured and crusted. The glans penis had ulceration similar to those seen in the mouth. There was also a yellowish-white pseudomembrane on portions of the glans. From the urinary meatus issued forth a yellowish-white exudate.

There were fine moist rales over the right and left posterior lower chest, left lateral chest and left lower anterior chest. These did not disappear with coughing. Breath sounds were roughened. The remainder of the physical examination was within normal limits.

Culture from the penis revealed hemolytic staphylococci aureus. Throat culture revealed non-hemolytic streptococci, non-hemolytic staphylococci and gram negative bacilli. Spinal fluid culture was negative for growth. Cold agglutinins, heterophyl antibody agglutination were absent. Admission WBC was 13,800 with 81 neutrophils, 18 lymphocytes and 1 monocyte. Sedimentation rate was 36. VDRL was negative. Three chest X-rays were not remarkable for pathology.

For the first eight hospital days there was rectal temperature of between 99° and 100°. Patient was treated

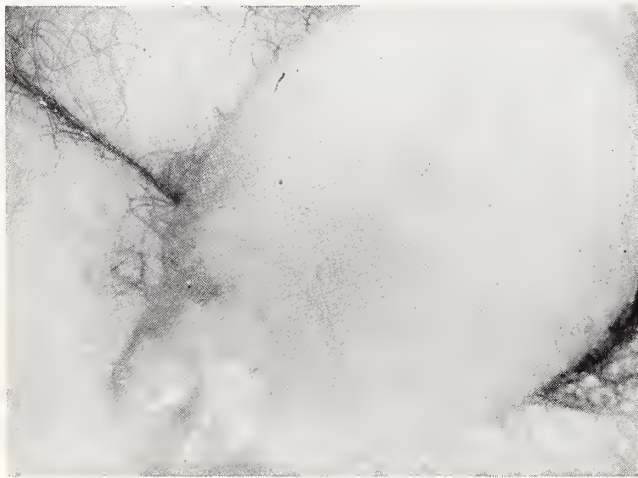


Fig. 1. Penile lesion.

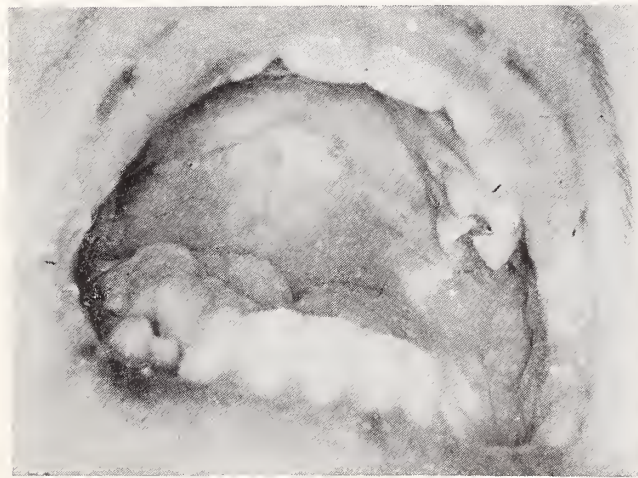


Fig. 2. View of tongue showing dentate configuration.

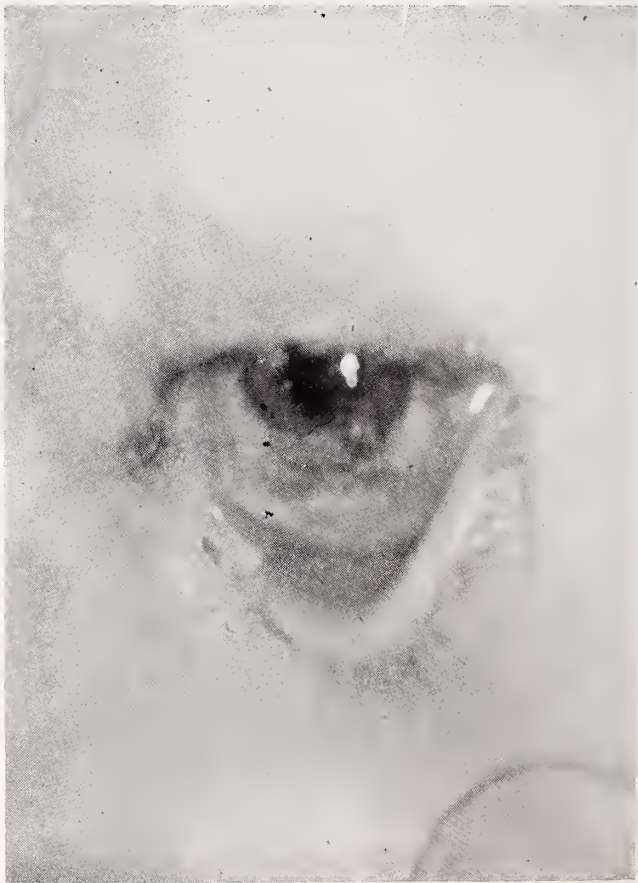


Fig. 3. View of eye showing sub-conjunctival hemorrhage.

with Cortone acetate 2.5% ophthalmic ointment; 1% Chlortetracyclin ophthalmic ointment; saline gargles, and 3 gms. of Chlortetracyclin per day. Seven days after admission the vesicles disappeared from the skin, leaving a residual of purplish discoloration. Five days after admission there still remained small subconjunctival hemorrhages. There was still a small pseudomembrane on the undersurface of the tongue and yellowish crusting of the penis. During the first ten days in the hospital fine rales over the left posterior chest could be heard. Patient was discharged from the hospital on the 15th hospital day.

SUMMARY

Erythema multiforme exudativum (Stevens-Johnson syndrome) is a self-limiting disease which is usually benign. It is of unknown origin. The syndrome consists of a dermatitis, conjunctivitis, stomatitis, urethrobalanitis and frequently there is bronchitis and even atypical pneumonia. Treatment is symptomatic. Antibiotics are used to treat or prevent secondary infections. Prevention of eye complications is important. Steroids are of value in the critically ill patients.

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The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Across The Desk

Maine MD's on the National Scene

Isaac Webber, M.D., Portland and Allan Stinchfield, M.D., Augusta, members of the President's Committee for Traffic Safety met with their group at Atlantic City and discussed physical fitness tests for automobile drivers. It would be interesting to know the opinions of the individual members of the MMA on physical examinations for automobile licensees. Your comments will be read with interest.

Physician Population Increased by 3,800

Enough physicians to replace all the people in a town the size of Lincoln, Maine or Freeport, Maine, were added to the total physician population of the United States in 1955, through the granting of licenses by examining boards.

for the first time in 1955 was 7,737, but if the nearly 4,000 physician deaths in 1955 were deducted, it leaves an increase of 3,800 in the total physician population.

The actual number of physicians receiving licenses

This is about 450 fewer physicians than the 4,250 physicians added to the population in 1954.

Tri-State Poison Control Center

Dr. Durwood J. Smith, Professor and Chairman of the Department of Pharmacology at the University of Vermont, is organizing all available information on some 25,000 poisons now on the market. This plan calls for such information to be available by telephone twenty-four hours a day, seven days a week, for physicians of Maine, New Hampshire and Vermont. Dr. Smith points out that of the persons who are poisoned, ninety per cent could be saved if proper information and antidote were available within the first half hour, and sixty per cent of them could be saved if the information were available within the first hour.

Regional Medical Needs Committee

A one-day meeting at the University of Vermont on May 11, 1956, at which Public Law 482 (Hill-Burton) was discussed as it applies to diagnostic treatment facilities in small rural areas; an amendment to the bill has been introduced by Senator Flanders of Vermont which will make funds available for construction of rural medical facilities. Last year, of the \$21,000,000 allocated to the construction of diagnostic treatment facilities, not one nickel went to rural areas.

Continued on page 215



ARMAND ALBERT, M.D.

President, Maine Medical Association

1956-1957

ARMAND ALBERT, M.D.

President, Maine Medical Association

1956-1957

Dr. Albert assumed his duties as President of the Maine Medical Association at the close of the 103rd annual session on June 26, 1956.

Dr. Albert was born in Ste Anne, Madawaska County, New Brunswick, November 8, 1896, the son of Louis N. Albert, M.D., and Augustine Hervieux Albert. He was graduated from St. Mary's College in 1915, and received his medical degree from the University of Montreal Medical School in 1920. He has practiced medicine in Van Buren since October 1921.

He was elected Councilor for the Sixth District of the Maine Medical Association in 1952 for a three year term, and served as Council Chairman in 1954-1955. He has taken a keen interest in Association affairs and at the annual session in June 1955 was elected President-elect.

We look forward to a good year with Dr. Albert as President and hope that all members of the Association will give him their wholehearted cooperation.

Across The Desk

Continued from page 212

Medical Care Continues Advance in Price Index

Consumer price index for April was 114.9, according to Bureau of Labor Statistics (1947-49=100). Categorical breakdown showed food index at 109.6; housing, 120.8; apparel, 104.8; transportation, 126.4; personal care, 119.5; reading and recreation, 108.2; miscellaneous goods and services, 121.4, and — at the top — medical care, 131.6. Latter was a 0.2 per cent gain over previous month and a new all-time high.

Commerce Dept. report issued last week estimates

consumer expenditures for *services* alone at \$91.2 billion in 1955. Housing and household operation expenses accounted for \$44.8 billion of this total. Next was "personal business," with \$12.5 billion, followed by "medical care and death expenses," \$10.1 billion. All other types of services were under the \$10 billion mark (transportation, recreation, private education and research, etc.).

Rockland in 1956

Once again we bring you a brief resume of highlights of an annual session of the Maine Medical Association — this time the 103rd. The registration for this convention exceeded 650 — including association members, auxiliary members, speakers and guests, and representatives of the companies in the Technical Exhibits.

The scientific part of the program has had preconvention coverage as well as "on the scene" coverage — consequently, this will deal with other aspects of the meeting.

HOUSE OF DELEGATES

The attendance at the two meetings of the House of Delegates was most commendable. This year the First Meeting of the House, which is usually held in the afternoon of the opening day of the session, was held at 10:00 a.m. to leave the afternoon open for Reference Committee meetings. This proved to be a wise move because three reference committees were appointed; one on the budget for 1956-1957; one on the Maine Medical School and Amendments to the Constitution and By-Laws; and one on Health Insurance. Space does not permit complete coverage of the transactions of the House of Delegates but we do want to include the report of the Reference Committee on the Budget which was approved at the Second Meeting of the House, inasmuch as it means an increase in State dues from \$35.00 to \$55.00. The report follows:

"In discussion with delegates and members representing more than half the membership of the Maine Medical Association, the committee experienced general approval of the proposed budget for 1956-1957.

"There were only two expressions of disapproval and these related only to the increase in salary of the executive director and the salary of an additional stenographer.

"The following resolution is presented by unanimous vote of the committee:

"Whereas the Executive Director has sustained considerable financial loss by giving up a busy private practice to perform the duties of his office, and whereas it is vital to the carrying out of the proposed program of increased services to both the Maine Medical Association and the People of the State of Maine that he be given adequate office personnel, it is hereby resolved that the entire budget for 1956-1957 be approved by the House of Delegates.

"Respectfully submitted,

Albert P. Royal, M.D., Leland White, M.D., Loring W. Pratt, M.D. George E. Sullivan, M.D., Albert Aranson, M.D., Chairman."

A motion that the Resolution be approved as read was seconded by several members and was carried.

The approved budget for 1956-1957 is as follows:

Office Expenses:	
Salaries:	
Executive Director and Editor	\$10,000.00
Secretary-Treasurer	4,500.00
Stenographers	9,000.00
Travel — Executive Director and	
Secretary-Treasurer	2,500.00
Supplies, Telephone, Rent, Lights, etc.	3,848.00
Equipment	750.00
General Expenses:	
President's Expenses	500.00
Annual Session	2,600.00
Council	600.00

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¹Albertson, H.A. and Trout, H. H., Jr.: *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N.Y., 1955, pp. 599-602.

²Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid.*, pp. 603-607.



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ACHROMYCIN ACHROMYCIN

ROCKLAND IN 1956 — *Continued from page 215*

Committees:	
Medical Advisory, Legal Counsel	1,000.00
Legislative	1,500.00
National Education and Public Relations	1,500.00
Other Standing and Special Committees	600.00
Delegates:	
American Medical Association	1,000.00
New England States	300.00
New England Council Dues	100.00
Fall Clinical Session	400.00
M.M.A. Annual Roster	200.00
Woman's Auxiliary	150.00
Journal:	
Travel	200.00
Printing and Plates	12,000.00
Supplies, etc.	500.00
<hr/>	
Total	\$53,748.00

The estimated income from State Dues, Journal Advertising and Subscriptions, and Exhibit Space Rentals is \$56,630.00. The income from investments, approximately \$750.00 per year, will be used for special projects of the Association. (The Auditor's Report for 1955-1956 is published elsewhere in this issue of the Journal.)

Councilors elected at this same meeting were Robert L. Allen, M.D., of Rockland, for the Third District, and Wilson H. McWethy, M.D., of Augusta, for the Fourth District. Philip P. Thompson, Jr., M.D., of Portland, was elected Delegate to the American Medical Association, to serve from January 1, 1957 to January 1, 1959.

Article VI of the Constitution and Chapter V, Section 9 of the By-Laws, changed as suggested in the May issue of the Journal, pages 151 and 152. Chapter XIII, Section 1, at the recommendation of the Reference Committee, is as follows: "These By-laws may be amended at any Annual Session by a majority vote of the delegates present at that session if the proposed amendment has been submitted to the Council and copies have been sent to the Secretary of each county society and each Delegate and Alternate Delegate thirty (30) days preceding the Annual Session."

The stenographic record of the meetings of the House of Delegates, is on file in the Association's office and is available to any member of the Association.

GENERAL ASSEMBLY

Francis A. Winchenbach, M.D. of Bath, was elected President-elect at the General Assembly on Monday, June 25.

Again, we changed the order of business for the annual session by presenting the Association's Honorary Pins at this assembly, instead of at the annual banquet. Martyn A. Vickers, M.D. of Bangor, retiring President, presented Fifty-Year Lapel Pins to the following members who graduated from medical school in 1906; Leopold O. Roy, M.D., Lewiston (Laval), Edward H. Rise-ly, M.D., Waterville (Harvard), Harris C. Barrows, M.D., Boothbay Harbor (Bowdoin), and George W. Holmes, M.D., Belfast (Tufts). Fifty-Five Year Pins were presented to: Luther A. Brown, M.D., Portland, Harris B. Haskell, M.D., Portland, Fred P. Webster, M.D., Portland, Raymond R. Tibbetts, M.D., Bethel, Ansel S. Davis, M.D., Springvale, and Clarence F. Kendall, M.D., Biddeford. Thomas Tetreau, M.D., of Portland, and Walter S. Stinchfield, M.D., of Skowhegan, received Sixty-Year Pins.

Daniel F. Hanley, M.D., Executive Director and Editor, presented trophies to the following members for outstanding contributions to The Journal of the Maine Medical Association: Philip P. Thompson, Jr., M.D., Portland, Nelson Blackburn, M.D., and Lawrence Cutler, M.D., both of Bangor.

COUNCIL

Eugene E. O'Donnell, M.D. of Portland, was elected Chairman of the Council for 1956-1957 at the organiza-tion meeting on Monday, June 25. Dr. Hanley was re-elected Executive Director and Editor, and Mrs. Ken-nard, Secretary-Treasurer and Business Manager.

At the closing meeting of the Council on Tuesday, June 26, it was voted to hold the 1957 annual session at the Samoset on June 23, 24 and 25, as a result of a poll of members present which was almost two to one in favor of the Samoset as a meeting place.



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Standards For Adoption

(This basic information is provided as the first of a series of articles on adoption to appear in subsequent issues of the Journal.)

After a long-term study in which private agencies joined with the State Department of Health and Welfare, basic standards for recommended adoption practices have been drawn up as representing what should be required of agencies licensed to place children for adoption in this state. Such licensing of agencies is a function of the Department.

The basic responsibility of the agency, public or private, to protect the rights and needs of the child is emphasized in the introduction to the minimum standards. A home study is necessary to determine the qualifications of the applicants, and the growth and satisfaction the home offers both the child and the adoptive parents.

Wholesome living in the home is influenced by, and made up of, physical, mental, emotional and spiritual factors. This serious responsibility for a home study, placement of a child and supervision of the home, requires skilled casework services offered by a staff of qualified and paid personnel.

The minimum standards in services to adoptive applicants are outlined as follows:

A. Eligibility Requirements

1. The eligibility requirements for filing application with the agency shall be written and made known to the applicants. These eligibility requirements may include such factors as residence, age, religion, health, made up of the family, and financial ability to provide for the child.

B. Adoptive Home Study

1. Both husband and wife must be seen and interviewed. Both must wish to have an adoptive child. The marriage must be reasonably stable. Both must be in good physical health and be well balanced people in order to become parents to an adoptive child.
2. A formal application shall be filed signed by both parents.
3. At least three interviews shall comprise a study.

A home visit is necessary and may be considered one of the three interviews. There shall be sufficient space in the home for the child.

4. A medical statement from a doctor on husband and wife, which covers chest X-ray, and venereal test, and indicates usual life expectancy, shall be submitted in writing. If applicants have not had a routine examination within a year of application, they shall arrange to have such examination. Any physical disabilities of adoptive parents shall be evaluated by the agency's doctor. The doctor's statement as to the couple's present ability to bear a child should be a part of the medical report.
 5. Financial data is a part of the study. This should include income as well as expenditures and should list resources other than income.
 6. References shall be submitted by three persons other than relatives who have known the applicants for a sufficiently long time to make a judgment about them. Another reference should be given by a clergyman of the applicant's faith.
 7. Within six months of filing application, the applicants shall know from the agency, (1) if they are accepted; (2) if rejected, why?
- ### C. Preparation for Use of Home
1. Pertinent facts about the child's health and development and the background are to be told to the adoptive parents. The child must be seen by both adoptive parents. Both must want the child to go into their home. It is preferable that there be a time lapse between seeing the child and taking the child so that the agency and the adoptive couple are sure about their decision of placement of the child in the home. With an older child, there must be a time lapse between seeing and taking the child. Adoptive applicants and child should meet more than once to become acquainted and get used to one another.
 2. There must be a written signed agreement between the agency and the adoptive applicants stating the length of the probationary period; the right of the agency to remove the child; the right of the adoptive applicants to have the child

removed; the granting of a free home by applicants during the probationary period.

D. Use of the Adoptive Home

1. There shall be a probationary period of one year. In exceptional cases, this may be curtailed. At least three interviews shall be required during the probationary period to learn how the child and the parents are adjusting.
2. It shall be clearly understood that adoptive parents shall tell the child he is adopted.
3. The adoption shall not be considered complete until a certificate of adoption has been obtained by adoptive parents and a corrected birth certificate obtained.

E. Records

1. There shall be a written record of the adoptive home study which incorporates the interviews with adoptive applicants; collateral material; the child or children presented to the adoptive couple, if more than one child; the date of placement of a child; reasons for closing, if not used; the date of the adoption decree by probate court; and the certificate of adoption.

MINIMUM STANDARDS IN AGENCY SERVICES TO THE CHILD

A. Intake

1. No agency shall accept a child for care with adoption in mind unless it has case work services to assist the parent in a decision regarding the future of the child.

B. Background

1. It is desirable to have as much factual information as possible regarding a child's background. This should include family names; dates of birth and marriages of parents; race; nationality; religion; health on both sides of the family, particularly as this applies to any disease commonly thought inheritable; condition of the eyes, teeth, etc. A description of immediate ancestors, including size, weight, coloring, and build. Occupation and achievements of members of the family.

C. Care Pending Adoption

1. If a foster home is used, the home should meet licensing requirements and it should meet the child's total developmental needs.
2. If group care is used, the facility should be licensed by Health and Welfare.
3. A case work relationship is a necessary part of care. This includes a continuing relationship between the worker and the child during the process of placement.

D. Medical

1. A child shall have periodic physical examination which should minimally include admission and discharge examinations.

E. Psychological

1. It is recommended that every child be examined by a psychologist before adoptive placement.

F. Placement

1. Early adoptive placement is recommended as is consistent with the study of the child and of the home.
2. The child should be placed in an adoptive home which has been studied and approved.
3. The welfare of the child should be the primary consideration in selecting and using an adoptive home.
4. It is desirable that the child be seen at least once by the prospective adoptive parents before the decision of placement is made.
5. A child should grow up with the knowledge that he is adopted.
6. The provisions of Maine Revised Statutes, 1954, Chapter 25, Section 252 shall be complied with in regard to the religious aspects of the care of the child.
7. At the time of placement, an agreement should be signed with adoptive parents making clear the obligations of the agency and the adoptive parents.

G. Legal Protection of the Child

1. The agency should be responsible for the correction of birth records that have been falsified or are otherwise incorrectly registered.
2. A surrender should be taken in Probate Court from legal parent or parents giving their consent according to law under the provisions of Maine Revised Statutes, 1954, Chapter 158. No agency should place a child unless it has custody either through surrender or commitment.

H. Records

1. Adequate records, of the work done by the agency in service to the child as reflected in the standards above, should be kept.

MINIMUM STANDARDS IN CASE WORK SERVICES TO UNMARRIED MOTHERS*

A. General Statement

1. Giving assistance to the unmarried mother and her baby is only one aspect of the broader community program of services to families and children.

Ideally, case work service should be available from the time of referral before the baby's birth until the unmarried mother is sufficiently strong and mature emotionally to make realistic choices, until she has developed sufficient ego strengths to need no longer her former neurotic solutions to her need of love and esteem — until she is able to handle her own situation in an adequate mature way. But since this would require many

*The term "unmarried mother" is meant to include any mother not married to the father of her child.

services not available to most of us in Maine, such as psychiatric consultation vocational services, sufficient trained case workers, and time, it is necessary to lop off services and cut here and there to consider what is practical in our present set-up. We should recognize that our goals are limited by the girl's desire and ability to use case work help.

B. Essentials of Case Work with the Unmarried Mother

1. To furnish security by:
 - (a) Acceptance as a person with needs and rights. This helps to relieve anxiety and establish a working relationship with worker.
 - (b) Removal of external pressures by providing plans for care either in own home or home of relatives, a maternity home or a foster home. This must often include financial assistance and some assurance of help in plans for the baby.
2. To plan with the mother for adequate medical care both pre-natal and post-natal as well as hospital arrangements for delivery. This may be by a private doctor, a clinic service, or a maternity home.
3. To give continued case work help throughout the period directed towards:
 - (a) Giving service to the unmarried mother as a person.
 - (b) Helping her work out her plans for the baby in a realistic way; helping her to express her feelings and clarifying them; helping her to see the baby as an individual with separate needs and to see what is involved by either keeping him or giving him up. Discussing with her various possible plans for baby with evaluation of each. Helping her to share background

material. Discussing with her how much she wants to involve the putative father and working with him where it is indicated. Giving positive guidance regarding decision to surrender child and helping with the procedure. Discussing the legal aspects of unmarried parenthood with her.

4. In the case of the adolescent unmarried mother, to have continued contacts with her family during the period of care to evaluate their attitudes and to help them to understand the girl and the decisions she must make.
5. Where indicated, to refer her to other agencies for services where needed and available — aimed at:
 - (a) Services to baby — help to mother with permanent plans for baby.
 - (b) Services to mother — helping her plan for her own adjustment in the community.

C. Records

1. Adequate records of the work done should be kept.

The following agencies participated in the adoption study: Bangor Children's home, Bangor Family Services Society, Child and Family Services, Portland, Good Samaritan Home, Bangor, Lewiston-Auburn Catholic Bureau of Social Service, Maine Children's Home Society, Augusta, New England Home for Little Wanderers, Aroostook County Branch, Caribou, New England Home for Little Wanderers, State of Maine Branch, Waterville, and the State of Maine Department of Health and Welfare.

Miss Mary A. Krick, Agent, New England Home for Little Wanderers, Waterville, served as Chairman of the State-Wide Committee on Adoption and Miss Lena Parrott, the recently retired Director of the State's Division of Child Welfare, was active in the completion of the study and standards.

Chest Survey Hospital Admission X-Ray Programs

ALTA ASHLEY, M.D.*

Early in the year 1956 a questionnaire was sent to all institutions licensed as hospitals by the Bureau of Health, in an effort to obtain information on survey chest hospital admission programs in the state during 1955. Sixty-four of the sixty-eight licensed institutions replied. The four not replying are all small privately owned establishments which are not listed in the American Hospital Association roster, and would account for very few admissions in a period of a year and may be disregarded without danger of distorting the facts.

Information obtained from the questionnaire is presented in the accompanying table.

Although the yield of probably active tbc. cases per 1000 films is higher in the hospitals which do not carry out an admission x-ray program the number of missed cases, based on the rate per 1000 admissions is considerable and should give us pause. On the basis of the number of cases found per 1000 admissions in hospitals carrying out a program 119 cases of active or probably active tuberculosis should have been found by the 52 hospitals who have no program, as compared to the 31

Continued on page 227

*District Health Officer.

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LINCOLN-SAGadahoc

President, Joseph I. Smith, M.D., Bath
Secretary, Everett D. Schubert, M.D., Wiscasset

OXFORD

President, John F. Hughes, M.D., Dixfield
Secretary, Peter B. Aucoin, M.D., Rumford

PENOBSCOT

President, Carl E. Blaisdell, M.D., Bangor
Secretary, Herbert C. Scribner, M.D., Bangor

PISCATAQUIS

President, Norman H. Nickerson, M.D., Greenville
Secretary, Robert C. MacDuffee, M.D., Monson

SOMERSET

President, William B. Grow, M.D., Fairfield
Secretary, Harland G. Turner, M.D., Norridgewock

WALDO

President, Ernest W. Stein, M.D., Pittsfield
Secretary, Raymond L. Torrey, M.D., Searsport

WASHINGTON

President, Edwin B. Johnston, M.D., St. Stephen, N. B.
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, Louis C. Lesieur, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

AROOSTOOK

May 22, 1956

The annual meeting of the Aroostook County Medical Society was held at the Northeastland Hotel, Presque Isle, Maine on Tuesday, May 22nd.

The following officers were elected for 1956-1957:

President, Stephen S. Brown, M.D., Mars Hill
Vice-President, Melvin R. Aungst, M.D., Fort Kent
Secretary-Treasurer, Clyde I. Swett, M.D., Island Falls.
CLYDE I. SWETT, M.D.,
Secretary

WASHINGTON

April 27, 1956

A regular meeting of the Washington County Medical Society was held on Friday, April 27th at the VFW Hall in Eastport, Maine.

Robert Kellogg, M.D., of the staff of the Eastern Maine General Hospital, Bangor, Maine, was introduced by James Bates, M.D., of Eastport, Maine. Dr. Kellogg spoke on the use of Radioisotopes in medicine, a material developed in the Oak Ridge Laboratories as a by-product of Uranium. There were several different types of Radioisotopes such as radioactive gold, radioactive iodine, radioactive carbon, and many others. Each type seems to produce certain effects upon the body. The only one in use in Bangor is radioactive iodine which has a specific affinity for the thyroid gland. It is used both for diagnosis and treatment. Diagnosis depends upon the uptake of radioactive iodine by the thyroid gland as determined by a geiger counter. Treatment requires up to 1000 times as much radioactive iodine as for diagnosis. Dr. Kellogg presented a very clear account of a new field of medicine.

A business meeting of the Washington County Medical Society was presided over by Edwin Johnston, M.D., of St. Stephens, N. B., president of the Washington County Medical Society. John Metcalf, M.D., delegate to the Maine Medical Association, reported on the interim meeting of the House of Delegates. Oscar F. Larson, M.D., of Machias, Maine has been appointed as delegate from the Maine Medical Association to the annual meeting of the Massachusetts Medical Association to be held in Boston, May 22-24.

An excellent dinner was served to twenty-one members and guests by the Auxiliary of the VFW.

This was followed by a meeting of the staff of the Calais Hospital.

Hazen Mitchell, M.D., of Calais, Maine introduced B. G. Clark, M.D., of Tufts University Medical School, who spoke on prostatic surgery. He illustrated his talk by lantern slides, a movie and sculptured models of normal and abnormal prostates. He covered the various types of prostatic surgery of which supra pubic prostatectomy is the safest and most generally used. The other types such as transurethral resection is most useful for median bar obstruction. Present day surgery has made prostatic surgery relatively safe. An open period of discussion followed.

The wives of the members were entertained at the home of Mrs. James Bates.

KARL V LARSON, M.D.
Secretary

A RESEARCH MILESTONE

Nilevar*

(BRAND OF NORETHANDROLONE)

Searle's New and Practical Steroid
Specifically for Protein Anabolism—

It has long been recognized that a substance which would promote protein anabolism would be of inestimable value in therapy. The androgens have this property, but unfortunately they also exert actions on secondary sex characteristics. These effects are commonly undesirable in therapeutic programs.

THE FIRST STEROID WITH ANABOLIC SPECIFICITY—Nilevar, the newest Searle Research development, therefore, meets a long desired clinical need because Nilevar presents the first steroid primarily anabolic for protein synthesis. Moreover, Nilevar is without prominent androgenic effects (only about one-sixteenth of that exerted by the androgens).

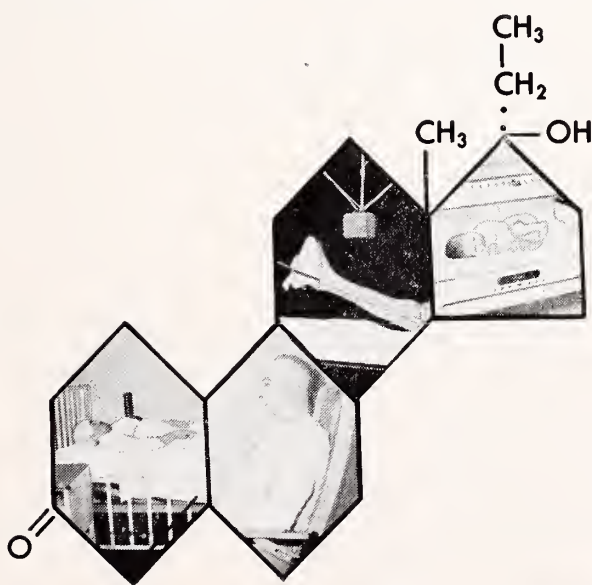
OBJECTIVE AND SUBJECTIVE RESPONSE —Orally effective, Nilevar therapy is characterized by retention of nitrogen, potassium, phosphorus and other electrolytes in ratios indicative of protein anabolism. Moreover, subjectively the patient observes an increase in appetite and sense of well-being.

WELL TOLERATED —Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently. Slight androgenicity may be evidenced on high dosage or in particularly responsive individuals.

MAJOR INDICATIONS—Preparation for and recovery from surgery; supportive treatment of serious illnesses (pneumonia, poliomyelitis, carcinomatosis, tuberculosis); recovery from severe trauma and burns; decubitus ulcers; care of premature infants.

DOSAGE —The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the average daily dose is 1 to 1.5 mg. per kilogram of body weight; individual dosages depend on need and response to therapy.

SUPPLY —Nilevar is available in uncoated, unscored tablets of 10 mg. G. D. Searle & Co., Research in the Service of Medicine.



*Trademark of G. D. Searle & Co.

SEARLE

Notices

INTERNATIONAL RESEARCH COUNCIL

Hamilton Cameron, M.D., New York City, announces the recently incorporated International Research Council, the first world-wide medical confraternity for the dissemination of knowledge concerning aphasia associated with hemiplegia. The aims of the council include: the establishment of a clearing house on the subject, and the publication of a monthly *Review-Bulletin*.

In January 1943, Dr. Cameron became one of the 600,000 hemiplegia aphasics. He devised a 'Hand Talking Chart' that has proven a practical clinical aid. This has been a boon to those vocally paralyzed who hitherto had no such means of communication with those around them.

Dr. Cameron, for eight years, has been supplying the Chart to physicians and nurses, with no charge, by the kind cooperation of the Medical Editors and Editors of non-medical publications.

For gratis, copies of the Chart and the detail information of the Nature and Aims of the International Research Council, address, Dr. Hamilton Cameron, General Director, 601 West 110th Street, New York City 25, New York.

DEPARTMENT OF HEALTH AND WELFARE

Division of Maternal and Child Health
(Including Services for Crippled Children)

CLINIC SCHEDULE 1956

ORTHOPEDIC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL

9:00 a.m.: June 11, July 9, Aug. 13, Sept. 10, Oct. 8,
Nov. 5, Dec. 10.

LEWISTON — CENTRAL MAINE GENERAL HOSPITAL

9:00 a.m.: June 15, July 20, Aug. 17, Sept. 21, Oct. 19,
Nov. 16, Dec. 21.

RUMFORD — COMMUNITY HOSPITAL

1:30 p.m.: June 20, Sept. 19, Dec. 19.

WATERVILLE — THAYER HOSPITAL

1:30 p.m.: June 28, Oct. 25.

ROCKLAND — KNOX COUNTY HOSPITAL

1:30 p.m.: Aug. 16, Nov. 14 (Wednesday).

MACHIAS — NORMAL SCHOOL

1:30 p.m.: July 18, Oct. 10.

PRESQUE ISLE — NORTHERN MAINE SANATORIUM

9:00 a.m. and 12:30 p.m.: July 11, Sept. 11, Nov. 14.

HOULTON — AROOSTOOK GENERAL HOSPITAL

9:00 a.m.: July 10, Nov. 13.

FORT KENT — PEOPLES BENEVOLENT HOSPITAL

10:00 a.m.: Sept. 12.

*BANGOR — EASTERN MAINE GENERAL HOSPITAL

1:00 p.m.: July 26, Sept. 27, Nov. 15.

AUGUSTA — AUGUSTA GENERAL HOSPITAL

1:00 p.m.: Aug. 23, Dec. 27.

CARDIAC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL

9:00 a.m.: Will be held every Friday with the exception of holidays.

BANGOR — EASTERN MAINE GENERAL HOSPITAL

9:00 a.m.: June 8-22, July 13-27, Aug. 10-24, Sept. 14-28, Oct. 12-26, Nov. 9-16, Dec. 14-28.

CLEFT PALATE EVALUATION CLINICS

PORTLAND — CITY DISPENSARY, 65 India Street

10:00 a.m.: Aug. 14, Nov. 20.

PEDIATRIC CLINICS

*BANGOR — EASTERN MAINE GENERAL HOSPITAL

1:30 p.m.: June 22, July 27, Aug. 24, Sept. 28, Oct. 26,
Nov. 16, Dec. 28.

*FORT KENT — PEOPLES BENEVOLENT HOSPITAL

10:00 a.m.: July 25, Nov. 21.

*PRESQUE ISLE — NORTHERN MAINE SANATORIUM

1:30 p.m.: Sept. 26.

*WATERVILLE — THAYER HOSPITAL

1:30 p.m.: June 5, July 3, Aug. 7, Sept. 4, Oct. 2, Nov. 6,
Dec. 4.

*Several of the Pediatric Clinics, and also Bangor CC Clinics, will be two-session clinics.

BY APPOINTMENT ONLY

Letter To The Editor

MEDICINE AND THE LEGIONNAIRE

Editor,
The Journal of
The Maine Medical Association

In the May issue under above title is an address given last October at the Convention of the American Legion by David B. Allman, M.D., a Trustee of the American Medical Association, in which, speaking of points of agreement between the Legion and the AMA on health problems, he says "this co-operation is incumbent on us not only in matters of health but in the whole range of considerations which relate to the betterment of our country and our way of life." As an illustration he cites the Bricker Amendment as one on which the AMA and the Legion "share a common point of view."

Article 11, Constitution of the Androscoggin County Medical Association reads "The purposes of this Association are to pro-

mote the science and art of medicine, the protection of the public health, and the betterment of the medical profession . . ." and I assume the objectives of the AMA are the same. I do not find herein warrant for cooperation with anybody on matters, aside from health, relating to the betterment of our country, and I have never authorized the AMA to speak for me on other public questions.

These outside issues are no business of the Legion or the AMA; they are the business of the American People and should be decided without attempted pressure by self appointed guardians.

If the time shall come when all organizations and groups attend only to their own affairs, some semblance of order may replace the present social, political and economic chaos.

ALBERT W. PLUMMER, M.D.
Lisbon Falls, Maine

AUDITOR'S REPORT

JOSEPH STILLMAN

CERTIFIED PUBLIC ACCOUNTANT

97A EXCHANGE STREET

PORTLAND, MAINE

June 13, 1956

Maine Medical Association
Brunswick
Maine

Gentlemen:

I have examined the accounting records of the Maine Medical Association for the fiscal year ended May 31, 1956 and all related data and information pertinent thereto. I have found the records to be in order and all funds properly accounted for.

In my opinion, the enclosed exhibits, Balance Sheet and Statement of Income Expense, with supporting schedules, present the true financial condition of the Maine Medical Association as of May 31, 1956 and the results of its operation for the fiscal year then ended.

Yours truly,
JOSEPH STILLMAN

Exhibit A

MAINE MEDICAL ASSOCIATION		
BALANCE SHEET		
As at May 31, 1956		
ASSETS		
Cash on Hand and in Banks (See Schedule III)	\$24,021.19	
Accounts Receivable:		
Dues	\$ 1,730.00	
Advertising — Journal	1,724.76	
		3,454.76
Securities (See Schedule VII)	17,230.96	
Furnishings and Equipment	2,509.69	
Accrued Interest Receivable	192.67	
Prepaid Expenses:		
Annual Session	\$ 211.41	
Postage and Mailing	10.19	
		221.60
Trust Fund Investments (See Schedule II)	4,018.16	
		<u>51,649.03</u>
Total Assets		
LIABILITIES		
Accounts Payable	\$ 1,071.67	
Due for Payroll Taxes and Taxes Withheld	299.45	
Deferred Income:		
Convention Exhibit Space	2,755.00	
		<u>4,126.12</u>
Total Liabilities		
Excess of Assets over Liabilities		\$47,522.91
CAPITAL AND FUNDS		
Capital Account (See Schedule I)	\$43,504.75	
Trust Funds (See Schedule II)	4,018.16	
		<u>47,522.91</u>
Total Capital and Funds		

Exhibit B

STATEMENT OF INCOME AND EXPENSE		
FOR THE YEAR ENDED MAY 31, 1956		
INCOME		
Dues	\$23,050.50	
Journal (See Schedule IV)	17,234.92	
Annual Session (Exhibits)	2,482.00	
Investments (See Schedule V)	745.14	
Miscellaneous Income	41.73	
Gain on Bangor and Aroostook Bonds Called	166.65	
		<u>43,720.94</u>
Total Income		

EXPENSES		
Administrative Expense of Office (See Schedule VI)	\$20,101.32	
Journal (See Schedule IV)	13,130.11	
General:		
Annual Session	\$ 2,069.48	
President's Expenses	425.00	
Councilor's Expenses	569.88	
Medical Advisory Committee (Legal Council)	1,000.00	
Other Committees	349.77	
Delegates New England Medical Societies	163.13	
Delegates American Medical Association	428.00	
American Medical Association Clinical Session	311.70	
New England Council Dues	100.00	
Women's Auxiliary	150.00	
Annual Rosters	192.00	
Nurses' Aide Program	100.00	
National Education and Public Relations	917.28	
Legislative Session (Legal Council)	850.00	
Gift to Secretary-Treasurer (Car)	326.00	
		<u>7,952.24</u>
Total Expenses		41,183.67
Net Income for the Period		\$ 2,537.27

Schedule I

CAPITAL ACCOUNT	
FOR THE YEAR ENDED MAY 31, 1956	
Balance June 1, 1955	\$40,967.48
Additions to Capital:	
Net Income for the Year Ended May 31, 1956 (Exhibit B)	2,537.27
	<u>43,504.75</u>
Total	
Deductions from Capital	
None	.00
	<u>43,504.75</u>
Balance May 31, 1956	

Schedule II

TRUST FUNDS AND TRUST FUND INVESTMENTS
MAY 31, 1956

TRUST FUND INVESTMENTS		
Prince A. Morrow Trust:		
36 Shares American Agricultural Chemical Co. (Cost)	\$ 348.00	
Canal National Bank Savings Book No. 3905:		
Balance June 1, 1955	\$ 2,457.04	
Add: Dividends Received	189.00	
Interest on Savings	24.12	
		2,670.16
		\$ 3,018.16
Thayer Library Trust:		
Portland Terminal Company 4% First Mortgage 1961		1,000.00
		\$ 4,018.16
Total Trust Fund Investments		

TRUST FUNDS		
Prince A. Morrow Fund:		
Principal	\$ 554.94	
Income	2,463.22	
		\$ 3,018.16
Thayer Library Fund:		
Principal		1,000.00
		\$ 4,018.16
Total Trust Funds		

Schedule III

SCHEDULE OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED MAY 31, 1956

Cash Balance, June 1, 1955	\$22,004.18
Cash Received From:	
State Dues	\$22,786.50
Journal Portion of State Dues	1,381.00
Journal Advertising	15,055.77
Journal Miscellaneous	245.45
Exhibit—Space Rentals	3,491.00
Investments	771.01
Bangor and Aroostook Bonds Called	1,026.65
Maine Tuberculosis Association—Annual Session	100.00
Thayer Library Trust Investment	40.00
Employees for Taxes Withheld	2,025.07
Miscellaneous (Refunds, Transfers, etc.)	286.12
Members for American Medical Association Dues	13,278.00
Total Cash Received	60,486.57
Total Cash	\$82,490.75
Cash Disbursements:	
Office Administrative:	
Salaries	\$15,098.85
Travel Expense	1,539.42
Office Expense	3,016.02
	\$19,654.29
Journal:	
Printing and Plates	\$12,443.91
Office Expense	541.34
	12,985.25
Employees Payroll Taxes	
General:	
Annual Session	\$ 2,126.17
Medical Advisory Committee (Legal Council)	1,000.00
President's Expenses	425.00
Women's Auxiliary	150.00
Legislative Session	850.00
Miscellaneous (Delegates, Councilor's Committees, Annual Session, etc.)	3,508.76
	8,054.93

Purchase of 24 Shares	
The National Union Fire Insurance Co.	1,000.50
American Medical Association for Members' Dues	
	13,753.00
Equipment and Furnishings	
	468.18
Miscellaneous (Refunds, Transfers, etc.)	
	232.14
Total Cash Disbursements	\$58,469.56
Cash Balance, May 31, 1956	\$24,021.19
Canal Bank Regular Checking Account	
	\$18,834.38
Canal Bank Special Checking Account AMA	
	144.66
Maine Savings Bank Book No. 7751	
	1,647.15
Undeposited Cash—	
Deposited June 4, 1956	3,395.00
	\$24,021.19

Schedule IV

SCHEDULE OF JOURNAL INCOME AND EXPENSE
FOR THE YEAR ENDED MAY 31, 1956

INCOME	
Journal Portion of State Dues	
	\$ 1,397.00
Advertising:	
State Journal Advertising Bureau	\$14,467.55
Local Advertising	1,098.92
	15,566.47
Miscellaneous Income and Subscriptions	
	271.45
Total Income	\$17,234.92
EXPENSES	
Printing and Plates	
	\$12,548.33
Trucking and Mailing	
	142.03
Telephone and Office Expense	
	302.21
Moving Expense	
	55.16
Miscellaneous Expense	
	82.38
Total Expenses	\$13,130.11

Note 1: Appropriation for Editor's salary was \$500.00. Executive Director also performed the duties of Editor. Salary of \$500.00 included in salary of Executive Director.

Note 2: Above items of expense do not include any portion of salary of Secretary-Treasurer, rent or lights since no part of these expenses have been allocated specifically to the Journal.

Schedule V

SCHEDULE OF INCOME FROM INVESTMENTS
FOR THE YEAR ENDED MAY 31, 1956

Income From:	
Interest:	
United States Government Bonds, Series G	\$ 150.00
Portland Terminal Company Bonds	150.00
Province of Nova Scotia Bonds	37.50
Bangor and Aroostook Bonds	33.88
Jacksonville Gas Corporation Bonds	40.00
Maine Savings Bank	49.76
	\$ 461.14
Dividends:	
Central Maine Power Co.—Preferred	\$ 42.00
Consolidated Edison Co. of New York—Preferred	50.00
The Chase Manhattan Bank	68.20
First National Bank of Boston	60.50
Guaranty Trust Co.	60.00
Telfair Stockton Company, Inc.—Common	3.30
	284.00
Total Income from Investments	\$ 745.14

Schedule VI

Schedule VII

SCHEDULE OF ADMINISTRATIVE EXPENSE
OF OFFICE
FOR THE YEAR ENDED MAY 31, 1956

Salaries:			
Executive Director	\$	7,500.00	
Secretary-Treasurer		4,000.00	
Stenographers		3,598.85	
			\$15,098.85
Travel Expense:			
Legislative Sessions	\$	356.16	
American Medical Association Meetings		327.16	
Other Council and Committee Meetings and Conferences		797.02	
			1,480.34
Office Expense:			
Rent and Lights	\$	308.85	
Stationery, Supplies and Postage		1,039.73	
Telephone		1,041.40	
Auditing		275.00	
Payroll Taxes		476.11	
Moving Expense		123.75	
Advertising		30.00	
Dues, Subscriptions and Periodicals		153.00	
Women's Auxiliary Bulletin		43.82	
Miscellaneous Expense		30.47	
			3,522.13
Total Expense			\$20,101.32

SCHEDULE OF SECURITIES
MAY 31, 1956

	Face	Cost
Bonds:		
United States Government Series G Due July 1, 1956	\$ 4,000.00	\$ 4,000.00
United States Government Series G Due March 1, 1961	2,000.000	2,000.00
Portland Terminal Company 5% First Mortgage 1961	3,000.00	3,045.00
Province of Nova Scotia 3¾ % 1971	1,000.00	995.00
Jacksonville Gas Corporation 4% First Mortgage 1969	1,000.00	1,025.00
Stocks:		
12 Shares Central Maine Power Co. 3½% Preferred \$100.00 par		948.00
10 Shares Consolidated Edison Co. of New York, Inc.—Cumulative, Preferred, No par		1,090.00
22 Shares First National Bank of Boston		1,049.36
15 Shares Guaranty Trust Company of New York—\$20 par		990.00
31 Shares The Chase Manhattan Bank		1,028.10
23 Shares National Union Fire Insurance Co. of Pittsburgh, Pa.		1,000.50
20 Shares Telfair, Stockton & Company, Inc.—Common \$4.00 par		60.00
2 Shares Stockton, Whatley, Doren & Company		.00
2 Shares Prudence Bond Corporation		.00
Total Securities		\$17,230.96

CHEST SURVEY HOSPITAL ADMISSION X-RAY PROGRAMS
Continued from page 221

cases actually found. In other words, 88 cases were missed.

The difference is also quite more impressive when total chest abnormalities are considered. Again, on the basis of the number found in the twelve hospitals conducting admission chest x-ray programs 5198 rather than 1372 such abnormal conditions should have been picked up in the fifty-two non-participating hospitals.

In other words it is possible that 3826 abnormal chest conditions were not found at a time when these patients were already under medical care and proper therapy would have been begun without having to resort to follow-up efforts which are notably ineffective and costly.

In the light of these findings, can the savings represented by the cost of approximately 80,000 films not used be justified?

DATA OBTAINED FROM QUESTIONNAIRE ON ADMISSION CHEST X-RAY PROGRAMS
In Maine Hospitals—68 Hospitals Queried

Classification	No.	Admissions	Survey X-Rays	Abnormalities Found	Tbc. Total	Tbc. Proven	Rates 1000 films	1000 adm.
Hospitals With Programs	12	26,666	27,663	1,520	39	35	1.3	1.3
Over 1000 adm/yr	7	23,386	24,523	1,223	29	26	1.1	1.1
Under 1000 adm/yr	5	3,280	3,140	297	10	9	2.9	2.8
Hospitals Without Programs	52	91,116	10,151	1,372	60	31	3.0	0.34
Over 1000 adm/yr	28	80,572	8,429	1,328	56	27	3.2	0.33
Under 1000 adm/yr	24	10,544	1,722	44	4	4	2.4	0.38
All Hospitals Replying	64	117,782	37,814	2,892	99	66	1.7	0.56
Hospitals Not Replying	4	No Data	All Are Unregistered With Few Beds.					

Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

The Non-Hospitalized Tuberculosis Patient

By Edward T. Blomquist, M.D., *American Journal of Public Health*, February, 1956.

Changing emphases and concepts in the tuberculosis problem in the United States have given rise to assumptions concerning the characteristics and status of tuberculosis patients who are not hospitalized, which are not supported by valid evidence. The Public Health Service has therefore undertaken to provide statistical data that will reliably describe the current status of known non-hospitalized tuberculosis patients in sample areas of the continental United States, so that health departments and other agencies may have specific information on which to plan.

The specific purpose of this undertaking is to study the characteristics of non-hospitalized tuberculosis patients who are in need of intensive public health supervision and to provide information on the types of care and services given them.

By means of sampling techniques 37 areas of the United States were selected. Together, these areas constitute an unbiased sample census of the number and status of known non-hospitalized cases for the United States as a whole. The 37 areas in the study had a total population of almost seven million and constitute portions of 24 states. No area was representative of any state; rather, the 37 areas combined are representative of the entire nation.

The latest information on the status of all tuberculosis patients in need of intensive public health supervision in 37 areas showed that slightly more than half (55 per cent) were hospitalized cases and 45 per cent non-hospitalized cases.

The original selection of cases was made from the tuberculosis case register or the master index of reported cases. Cases for whom the health department had no information during the last five years were not included. Cases with disease activity questionable, undetermined, or not stated were included and particular effort was made to obtain their clinical status. The most recent information available regarding clinical status, medical supervision, and public health nursing and social services provided during the six-month period preceding the study date was obtained. This was done by reviewing clinic, public health nursing and hospital records, by conferences with private physicians and other personnel in hospital outpatient departments, Veterans Administration and social service agencies. Home visits were made when necessary.

In each area the cases included were those known to be active at home as of the study date. Total cases eventually included not only cases known to be active, but all current positive sputum cases regardless of clinical status or treatment recommended. Cases known to be taking drugs or to have drugs recommended were included regardless of status because such cases require substantial resources for their care and supervision.

Plainly, the situation revealed in this table has many implications for health departments and other agencies. The community has as great a responsibility for those cases outside hospitals as for those that are hospitalized. Because of the difficulties involved in supervising patients who are not in institutions, medical, nursing, and social services will be particularly challenged. Health departments will be concerned about the chances of spread of the disease because of the presence of active cases in their communities.

One-fourth of the cases had been known to health depart-

Activity Classification of Non-hospitalized Tuberculosis Cases

Total	Number 3,159	Per cent 100.0
Total active and presumably active	2,272	71.9
Active and probably active, seen in past year	1,896	60.0
Presumably active, current activity status indefinite*	376	11.9
Arrested or inactive with drug therapy prescribed	887	28.1

*These cases did not have an activity report within the 12 months preceding the study date, even though the latest diagnosis was active or probably active except for 70 cases classified as arrested with positive bacteriology.

ments less than one year, three-fourths had been known for less than five years and 90 per cent had been known less than ten years. Thus an overwhelming number of cases at home are in need of that kind of public health supervision required soon after diagnosis.

About half of these non-hospitalized cases that need intensive public health supervision are 45 years of age and older. The age distribution is similar to that of newly reported cases. Obviously our tuberculosis control problem is proportionately greater in the older age groups. The study cases showed that the ratio of males of all ages to females of all ages was 60 to 40.

In ages over 35 there are more than twice as many males as females. Only 3 per cent of the cases for whom this information was available were in the minimal stage of the disease, 41 per cent were moderately advanced and 46 per cent were far advanced. The bacteriological status of the active and presumably active tuberculosis cases was unknown or undetermined within the preceding six months in 48.2 per cent of the cases. Twenty-four per cent were bacteriologically positive and 27.8 per cent negative. These data point out clearly that the cases at home include: (a) a large proportion which are positive; and (b) an even larger proportion which do not have a sufficient bacteriological determination to permit the public health agency to give realistic advice regarding prevention of the spread of disease.

Availability of facilities for medical supervision is directly related to density of population. All of the eight large cities in this study provide clinic, public health nursing and social services, while almost one-half of the study population in rural areas have no clinic services available. Ten per cent have no public health nursing service, and 80 per cent have no social services other than financial assistance, provided by departments of public welfare. Organized home-care programs exist in only two of the cities included in this study, and they supervised only 1 per cent of the total load.

It has been assumed that patients under supervision at home have drugs prescribed. The study shows that only a third have both bed rest and drug therapy recommended. Of the 922 patients with no recommendations known for either drugs or rest, more than half are not under medical supervision, insofar as could be determined.

It is significant that for 25 per cent of the active cases no medical recommendations for or against hospitalization were available. Only 5.5 per cent of the cases were recorded as awaiting hospitalization, almost 30 per cent were not hospitalized because of medical preferences. Certain areas of incompleteness of our data probably reflect an inadequacy of communication among health department physicians, tuberculosis hospitals, and other agencies.

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Dr. F. N. Whittier *

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Portland, Maine

Frank Nathaniel Whittier was born at Farmington Falls, Franklin County, Maine, on December 16, 1861. He attended Wilton Academy and entered Bowdoin College in 1881. He was president of the first Rugby Football Association at Bowdoin but his favorite sport was rowing. He rowed on his class crews his freshman and sophomore years, on the Varsity his junior and senior years. These were four-man crews; Dr. Whittier was captain his senior year and it was this 1885 crew — the Four Franks — which was the first Bowdoin crew to win an intercollegiate regatta at Lake Quinsigamond. They defeated Cornell, University of Pennsylvania and Brown and broke the intercollegiate record for four-man shells. In addition to his athletic interests Dr. Whittier was a good student; he was commencement speaker and was elected to Phi Beta Kappa.

After graduation Dr. Whittier studied law until he was elected Director of the Sargent Gymnasium at Bowdoin in 1886. He studied physical training under Dr. Dudley A. Sargent of Harvard in the fall of 1886

and during the next two summers. He was appointed Lecturer on Hygiene at Bowdoin in 1887. Meanwhile he had enrolled in the medical department of the college. He was granted a degree of A. M. in 1888 and of M.D. in 1889. The summers of 1889 and 1890 he spent at the Boston City Hospital in Pathology. From 1892 to 1895 he was instructor in the Harvard Summer School of Physical Training. He made two trips abroad to study pathology and bacteriology in English and German hospitals.

On June 24, 1885, Dr. Whittier married Eugenie Harward Skolfield of Brunswick. One of their two daughters, Dr. Alice, has held the post as Secretary and Treasurer of this Club for 22 consecutive years. Her sister, Isabel, teaches European History at Brooklyn College.

I first became acquainted with Dr. Whittier in 1914 when I was enrolled as a first year medical student. The Bowdoin Medical School, which was then nearing the end of the first one hundred years of its existence, maintained two years of instruction in Brunswick and the final two years in Portland. The medical school building, Adams Hall, stands in a V at the intersection of Harpswell and Bath Streets, at the edge of the Delta

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which was formerly an athletic field, although even at that date varsity sports took place at Whittier Field to the east of the Bowdoin Pines. The Doctor's office and laboratories were located on the second floor of Adams Hall. Dr. Whittier was at that time Professor of Bacteriology and Pathology and Deputy Dean of the Medical School. Medics were looked upon as rather rough, uncultured individuals with whom the academic students could not avoid a minimum amount of contact, for we dealt with bacteria, various secretions and excretions and we cut up human bodies. I think the Litts regarded us somewhat as we might look upon a cannibal. But one had only to cross Harpswell Street to breathe the rarer air of academic atmosphere. And here Dr. Whittier enjoyed the additional titles of Professor of Hygiene and Physical Education and College Physician.

Dr. Whittier maintained a private laboratory of bacteriology and pathology. He was pathologist to every hospital in Maine. He had to have technical help and for this purpose he employed students who were able to find time from their studies. Dr. Lester Adams was then Pathologist at the Eastern Maine General Hospital in Bangor. He and Dr. Whittier did the bulk of the tissue examinations made in the state and all of the blood tests for syphilis except for Dr. Thompson at Bangor State Hospital. We did not have the Kahn, Hinton, Kline or Kohnner tests; the Wassermann test was all we knew and this required the use of sheep's red corpuscles. The sheep, along with certain other laboratory animals, were kept during the winter across Bath Street in one corner of the carpenter shop, a fact which led to periodic mutterings from antivivisectionists but never to open hostilities. However, in the summertime the sheep were turned loose in Hig's pasture down on the Mere Point Road. By August they had become rather wild. It was quite a job to run one of them into a corner of the fence and slit her ear.

Dr. Whittier was for several years chairman of the State Committee on Venereal Diseases and Their Prevention. It was largely the result of his efforts that the State Diagnostic Laboratory was established and the legislature was persuaded to appropriate funds for free Wassermann tests.

Dr. Whittier was Milk Inspector of Brunswick, a duty which he took quite seriously. Long before sunrise the Doctor would start his raid upon the unsuspecting milkmen. By breakfast time the laboratory would be filled with milk and cream samples which had to be subjected to the Babcock test and bacteriological examination. At about this time an eloquent evangelist had been holding meetings in Topsham and among the converts was the owner of one of the largest dairy herds. Imagine the consternation when the next of the periodic examinations disclosed the fact that his milk had been watered! When confronted with the facts the farmer explained that this odd finding must be due to his purchase of several Dutch Belted cattle who drank

large quantities of water. The Doctor was still unconvinced.

For many years Dr. Whittier was Secretary of the Association of New England Colleges for Conference on Athletics and this entailed the preparation of a detailed annual report including the views of all the various college representatives. He served at Bowdoin on the Building Committees for the Gymnasium, the DKE House, the Infirmary and Hyde Hall. He was a member of the Brunswick Town and College Club. Together with Albert Tolman he was author of the historical pageant of the town of Brunswick which was staged in 1912.

There is another aspect of Dr. Whittier's work which is perhaps most important of all to us as a group; that was his interest in medico-legal affairs. It may be that his early study of law turned his thought in this direction; that study undoubtedly made him a better witness. It is true that there were few homicide cases in Maine over a period of 25 years in which his opinion was not sought. He came to be known throughout New England and on at least one occasion he was called to New York as an expert witness. As time has gone on and there are fewer persons alive who can remember him in the days when he was active in medico-legal matters, and who can recall his investigations in detail, a sort of tradition has grown up about his memory. There are two statements relating his pioneering medico-legal investigations which are repeated today and which can be found in print in the year 1905. One is that he was first to describe in a court of law a test to determine that a blood stain was composed of human, not animal, blood. This assertion refers to the Lambert case and that takes us to the town of Shirley in Piscataquis County and to the year 1901. The evidence in this case may be briefly stated as follows:

Mr. J. Wesley Allen, his wife and daughter lived on a farm in the town of Shirley, beside the old Stage Road leading from Monson to Greenville and situated about 7 miles south of Greenville. On Monday morning, May 13, 1901, a neighbor, Charles Tibbetts, discovered that the Allen buildings had been burned and could find no sign of the Allen family. Investigators found the charred remains of Mr. Allen in the ruins of the stable. The remains of another body were found in the doorway of the house and by means of the teeth was identified as Mrs. Allen. A third body was found in the cellar above which had been the sitting room; beside the body was a watch which had belonged to the daughter. Cattle and horses were burned but the hens and a rooster were found scratching in the yard. Two damp spots were discovered in the yard; it was seen that the dampness was due to blood which was identified by Dr. Whittier as human blood.

As a result of inquiry it was determined that Henry Lambert, a French Canadian, who had lived and worked in Shirley, had been in Greenville on Sunday and according to his story had walked in the evening to the

home of his employer, Telos Smith, and retired. He stated that he had arrived at the Smith house, which was about a mile from the Allen homestead, at about 9 P.M. and had gone to bed.

State investigators learned that Lambert had really been in Greenville on Sunday and that before leaving the village he had bought a quart of whiskey, but he did not take the Stage Road upon departing. A negro named Brodnak stated that he saw Lambert leave the West Cove RR station at Greenville and start down the railroad tracks. The man said Lambert wore rubbers (which were apparently new) and carried an umbrella.

Two boys were found who had been fishing in a stream near the railroad and who said Lambert had passed them 60 rods down the track and had spoken to them. They also noticed the new rubbers and umbrella.

Tracks along the railroad track of new rubbers were found of a size and pattern that Lambert had bought in Greenville. At Shirley Mills the tracks left the railroad and proceeded over a cross road to the old Stage Road. There they crossed the Stage Road and circled around the Allen house to a camp that had once belonged to Lambert but that he had previously sold to another person.

The camp was about 40 rods from the Allen house. The same rubber tracks were also found in the Allen yard.

The camp, which the owner had left locked, had been torn open and on a table were found some blazer matches. Lambert had bought similar matches in Greenville; the owner of the camp had left none there.

No one saw Lambert returning along the Stage Road that Sunday night, although one family was sitting out of doors until long after the time he should have passed. Telos Smith and his family were uncertain at what hour Lambert had returned.

Blood stains were found on Lambert's shirt although it was evident that attempt had been made to remove them.

Lambert was convicted after a trial which started November 12, 1901, and lasted 16 days. He served at Thomaston until 1923 and was pardoned by Governor Baxter and the Council.

Gradwohl's Legal Medicine states that two German scientists were working independently on the problem of determining the species of animal by means of blood tests and that their investigations were concluded on successive days: Uhlenhuth on November 7, 1901, and Wasserman on November 8, 1901. The Lambert trial commenced November 12, 1901, five days would not be sufficient time for publication of the German studies and transmission to this country. Dr. Whittier's investigation began soon after the murder was discovered May 13th. The test which he performed consists in repeated injections of human blood into a laboratory animal such as a rabbit. Mixture of the rabbit serum with human blood will show the presence of a precipitin, a species specific reaction. Hence it would appear that

Dr. Whittier had discovered the test before either Uhlenhuth or Wasserman. But Dr. Alice Whittier says no. She definitely remembers that someone from abroad first devised the test, but her father, she agrees, might have been the first to find a legal use for it, at least in this country. This seems like good evidence, so it would appear that we must accept it, since it is not possible for us to question Dr. Whittier.

But there were years when someone might have asked him about it and one man we find did so. A copy of the February 20, 1904, Lewiston Journal contains an interview with Dr. Whittier by Elliott C. Dill, feature reporter. "Since the Bechtel murder in Allentown, Pa., there has been much talk in the papers concerning the use of the serum test to determine the presence of human blood. The papers said that the test is remarkable and that its use in a murder trial marked an epoch.

"All this is true — with some slight amendments. The test is remarkable. Its use in a murder trial does mark an epoch, but that epoch did not begin in Allentown, Pa., in the Bechtel trial in 1904. It began in Dover, Maine, in the Lambert trial, in 1901.

"And the man to whom belongs the credit of first applying the test in a murder trial is Dr. Frank N. Whittier, Professor of Bacteriology at Bowdoin College. He was the first to make use of the test in this country, and so far as known, the first in the world. Working away with the old tests, in the summer of 1901, he heard of the first laboratory experiments abroad. With the meager details which these early reports contained, he straightway began experimenting, and when the Lambert case came to trial in November he had nearly as full data behind his testimony as the medico-legal world possesses today (1904) — with two and one-half years of added experimentation. In every essential he worked out the test, guarding against error and testing the test at every possible point. In his office in the medical school building this week I found Dr. Whittier and asked him for the story of his work in blood stains. 'In the first place,' Dr. Whittier said, 'when a specimen comes to me my first duty is to identify it. You have been about the courts enough to know that it matters not how much time an expert may have spent in the laboratory, if he fails in his identification when he takes the witness stand. He must know by some private mark of his own that the exhibit which is passed to him in court is the selfsame article which he worked over in his laboratory.'

"Having attended to the matter of identification and made notes on the same, I drop the legal side of the case and plunge into the medical. First of all comes the superficial examination under the microscope. The supposed blood may be on a piece of clothing, a particle of wall paper, a bit of flooring, the blade of a knife, a piece of bedclothing, or even a section of sod, cut from the spot where the supposed crime took place. It is necessary, in the first glance under the microscope, to

select the particular spot which promises the best field for experimentation.

"If it is a piece of clothing that I am working on, I should select a strand or fiber, lay it on a piece of white filter paper. I am then ready for the first test. This is what we call the 'Guaiacum' test. It is very simple and as positive as simple. I prepare a solution consisting of hydrogen peroxide, tincture of guaiacum and spirits of turpentine. To the fiber on the filter paper, apply a drop or two of this solution. If the solution turns blue as it soaks down through into the filter paper, you are working on blood. If there is no change, you may as well give up the experiment, for it is something other than blood that lies before you.

"But while you have established the fact, we will say, that you have a specimen of blood before you, the guaiacum test has given you no inkling as to what sort of blood it may be. It may be the blood of a man or a monkey, a hen or a cow, a hedgehog or a salmon. It is blood, and that is all you can say.

"I now return to the microscope, and this time for real hard work. Before I can study the specimen under the 'scope, I have to prepare it for inspection. To this end I have to soak out a particle of the blood, and this is an operation of some little precision. If I were to take water, the experiment would be at an end. Water is of such a different specific gravity than blood that it would crinkle the edges and break up the corpuscles in the specimen. There are several solutions that may be used which have approximately the same specific gravity as blood. Glycerine is one and caustic potash is another. Either will do the work well, and will loosen up the corpuscles in the dried blood with little disturbance.

"A particle of this on a glass microscope slide is all that is necessary. I can now examine the corpuscles as to their size, color and shape. I might say in passing that blood, as most of your readers will recall, is made up of plasma in which float the corpuscles, varying in many ways according to the family traits.

"This test will show at once whether the blood comes from fish, bird or mammal, but it is valueless to distinguish between certain mammals. The blood of a dog is so much like that of a human being that no one can say definitely which is which. This is also true of the guinea pig. If the blood has dried the corpuscle will have shrunk and the glycerine or caustic potash solution may not have brought it back to its original size.

"This always leaves open a door for argument. An expert may testify that the specimen which he examined is in every way consistent with human blood, but if he is pressed, he must say that it might be the blood of any other animal I have mentioned. He will have to admit that in his work he has found some human blood corpuscles smaller than the 1-3300 of an inch standard. He will also have to admit that he has found corpuscles in the blood of dogs, much above the

average size for a dog. And he will have to admit, further, that the largest dog corpuscles and the smallest human corpuscles are entirely indistinguishable in size.

"While the specimen is under the microscope it may be tested with various stains and watched for reaction. If tried with eosin, it will take on a red color.

"This test confirms the guaiacum test; the careful operator will next apply the 'Blood Crystal' test. In beginning this, I place normal salt solution on a slide and evaporate the water. This leaves the glass coated with the salt. On this coating I add the blood to be tested, cover it with a glass microscopic cover and flood the slide with strong acetic acid. Then I hold the slide over a burner and allow the acid to slowly evaporate. After repeating this several times, I place the slide under the microscope. If I find crystals, resembling in shape small whetstones, of a brownish color, from 1-1000 to 1-5000 of an inch in length, I am once more certain that it is blood before me. These prisms are found in nothing but blood, and for that reason are known as hemin crystals.

"It might be well to add the spectroscopic test. Taking a solution of the supposed blood and water, we let the light pass through the solution and then through the spectroscope. This breaks up the colors into their primaries and if we find two dark-colored bands in the green portion of the rainbow, we know that blood is present. The spectrum shows greatly differing results, according to the age and condition of the blood. Old blood — that is, blood which has been dried for a long time — will not give the same results as a solution of fresh blood, but still the same characteristics are always there, somewhat changed, but still absolutely recognizable.

"The supposed blood has now been put to four tests, the guaiacum test, the microscopic test, the blood crystal test and the spectroscopic test. It has passed the first and the remaining three have added their corroborative testimony.

"But when the expert has secured his results in each of these tests he can say no more than that the specimen is, or is not, consistent with human blood. Further than that, he cannot go on these tests.

"This brings us to the last, and most positive of the tests — the 'Serum' test, as it is known in the medico-legal world.

"It is this test which I used for the first time in the trial of Henry Lambert. The first reports of European experiments along this line were coming when I was called into the Lambert case. I will tell you something of the test, and then something as to how I used it in that case. Briefly put, the explanation is:

"If a few drops of the blood serum of one animal be added to a clear solution of the blood of another animal, no precipitate is formed. If, however, human blood be repeatedly injected under the skin of a rabbit, the blood serum of that rabbit soon acquires the power of causing a precipitate in a clear solution of human

blood, but causes no precipitate in the blood of any animal other than man and the higher apes."

This interview seems to remove any doubt about the origin of the test.

The second assertion is that Dr. Whittier first found by microphotography that the firing pin of a firearm contained minute surface irregularities which would be imprinted upon the cap of a shell fired from the particular weapon. In this way it would be possible to determine whether a discharged shell had or had not been fired from a certain firearm. This refers to the Terrio case which transpired in northern Somerset County in the town of Rockwood across Moosehead Lake from Mt. Kineo.

Mathias Pare, the victim, was a young man who claimed Benoit, Quebec as his home. He spent the winter of 1900 working for Silvere Gaudet, who was boss of Davis & Marston's lumber camp on W township.

When Pare quit work on the ninth day of March, Gaudet gave him an order for his pay. Pare went to Gaudet's home on Moose River and on the following day went down to Greenville where he cashed the order. The order called for \$106.68 and in addition thereto Pare had \$1.50 which Gaudet gave him on leaving camp. After cashing his order Pare bought an old-fashioned leather wallet — one of the kind that has a long leather strap that winds around it. He also bought a quart of whiskey. After making these purchases he had left the sum of \$100.50.

From Kineo, Pare went back to Gaudet's house and there he stayed Sunday night. It was not altogether a Puritanical Sabbath, for in addition to the quart which Pare brought from Kineo there was another "long-necker" which Joseph Murray contributed to the festivities.

In the Sunday party, which began in the afternoon and lasted till well along in the evening, were Joseph Murray, Fred Pooler, George Vigue and Joseph McDonald. Gaudet was present for a little time early in the afternoon but left for his camp before the evening carouse began. Part of the day was spent at Gaudet's and the rest at Murray's. Alexander Terrio was not in the party at either place, though during the afternoon, in company with George Vigue, Pare met Terrio and exchanged a few words.

During the afternoon and evening Pare frequently exhibited his new wallet and showed its fat filling of greenbacks. There is no evidence that Pare mentioned either his wallet or his money in the few words that he spoke when he met Terrio, though the State contended that Terrio, having worked with Pare the winter before and being aware that Pare was on his way home, must have known that he had his winter's wages with him.

The next morning Pare struck out on foot for Asquith station, seven miles distant, intending to board the train there for his home in Canada. He carried an ex-

tension grip and a woodsman's pack. It was about seven o'clock when he left Gaudet's. About an hour later he called at Fred Parent's house and borrowed from Mrs. Parent an old envelope in which he deposited a part of the money from his wallet. He put the envelope under his sweater and put the wallet containing the remainder of his money back into his trousers' pocket.

From Parent's, Pare went along the road till he came to Willie Butler's house. There he stayed till Fred Parent, who was hauling rocks to Brassau Lake, came along and gave him a ride to the piers at Brassau.

He left the piers at about 10:30 or 10:45, by direction of the crew at work there taking the short cut, known as the Cooke's Road.

So far as the evidence goes to show, the next man that met Pare was his murderer, for no one has ever claimed to have seen him alive after he passed out of sight, going down the Cooke's Road to strike the main road to Asquith station.

The crime was discovered on the eleventh day of April when Pare's body was found beside the tote road, about one and one-half miles from Asquith station. The body was fully clothed and partially covered with brush and snow, the melting of the latter disclosed what lay beneath. About a rod distant a hat and a woodsman's pack were found. The left pocket of the trousers was torn and turned inside out, and within two or three inches from the end of this pocket a cartridge shell of a 30-30 Winchester rifle was found lying on the snow. It was picked up and placed on the breast of the body where it remained till the body was removed on the 14th of April.

This cartridge shell exactly fitted the chamber of the respondent's 30-30 Winchester rifle and by reason of the distinctive marks alleged to have been made by the firing pin of the rifle upon the primer or cap of the shell at the time the cartridge was exploded became evidence of vital importance tending to connect the respondent with the commission of the crime.

On the twelfth day of May, following, another cartridge shell was found by George R. Peary about fifty feet from the place where the body lay, but it was shown by actual experiment that this cartridge did not fit the Terrio rifle. From the subsequent examination of the body made at the autopsy it appeared that Pare had received a rifle bullet through the chest and another through the right arm. A fragment of a leaden bullet with a small piece of steel jacket was also discovered in a wound in the left arm. The State claimed that all of these wounds might have been made by a bullet and steel jacket from a 30-30 rifle. The respondent claimed that the hole in the right arm was larger than the other and suggested that more than one rifle may have been used. All the bones of the skull were broken and crushed as if by a blow from some heavy instrument like the back of an axe or the butt of a rifle stock. There was also an incised wound on the neck which might have been made with the narrow

blade of a pocket knife. At the time the clothing was removed from the body a metallic case of a bullet from an exploded cartridge, and apparently a 30-30 rifle cartridge, dropped out of the clothing.

No money was found in any of the clothing on the body of Pare. The wallet with its contents had been taken from the trousers' pocket and the envelope containing the rest of the money had been abstracted from its hiding place under the sweater. The murder was obviously committed by someone who had knowledge of Pare's intended journey to Asquith that Monday morning, who knew that he had money on his person, and knew that the amount found in the wallet was not all that he possessed. The motive for the crime was manifestly robbery.

The State sought to connect Terrio with the crime in several ways. To begin with, the State said that Terrio showed more money immediately after the death of Pare than he had ever been able to satisfactorily explain. The State claimed that Terrio's inability to explain how he came by his money showed his guilt, and that when he sent a former attorney of his all the way to Rockwood to hunt for a lot of money which he said was buried in a salt box in his cellar he made it evident that he was lying.

The State brought forward Joseph Murray who said that on the 11th of March, 1901, he left his home in Rockwood and went six miles to a camp of his to get some fish for his brother-in-law, Joseph McDonald, and that on the way he crossed a snowshoe trail going toward Asquith which he recognized as Terrio's. He said that he recognized the trail by the fact that one snowshoe was broader and longer than the other. The State presented the snowshoes of Terrio and showed that one was broader and larger than the other. Murray also said that after Terrio's arrest Terrio said to him, "Joe, from the way the sheriffs are talking, you must have seen me that day." To this Murray says he replied: "No, sir, I didn't."

The State brought forward Simeon Newton who claimed to have been at Martin Munster's at Asquith station on the night preceding the murder and to have started down the tote road toward Rockwood at about 10:30 o'clock the forenoon of the murder. Newton said that when he reached the place where Pare's body was afterward found he saw a man ten or twelve rods away, with a rifle on his shoulder, making off as fast as he could. He did not then know Terrio brought the mail to a camp where he was working. He recognized him by his gait, his walk and his form.

Having brought out all this at the former trial, the State then called Prof. Frank N. Whittier of Bowdoin College, who testified that he had made a microscopic examination of the shell found by the body of Pare, that he found on the primer of that shell certain marks corresponding to similar marks on the firing pin of Terrio's 30-30 rifle. Dr. Whittier described in detail the 4 rings of circular marks, the L-shaped mark and the

star-shaped mark on the shells, which were present on other shells which he discharged by Terrio's rifle. Dr. Whittier stated that in his opinion the marks on the primer must have been caused by the firing pin of Terrio's rifle.

Terrio was convicted and sentenced to life imprisonment. Petition for a new trial on the strength of new evidence was reviewed by Justice William Penn Whitehouse and the position was sustained. The new evidence was the result of experiments performed by Professor Knight of the University of Maine. Professor Knight found that the marks made by the firing pin on the cap of a discharged shell were obliterated after exposure to the weather for one month. The jury at the second trial failed to convict Terrio.

Number 98 of Maine Law Reports, presenting the new evidence and the opinion of Justice Whitehouse, contains another interesting report. One of the 30-30 shells found by Pare's body was accidentally crushed in a letter press and in court was thereafter known as the "crushed shell." The disfigurement of this shell started the County Attorney, George W. Gower, Esq., to thinking about marks on discharged cartridges and it was this line of thought which led to examination of the cartridges by Dr. Whittier and his discovery of the distinctive and matching marks on the firing pin and the primers of the shells.

No earlier record has been found which describes this method of proving that a cartridge shell has been discharged by a certain firearm and we may safely conclude that the technique was original with Dr. Whittier.

In the year 1916 the European war was two years old and we finally found ourselves a part of it. Dr. Whittier was one of the first Maine physicians to offer his services. He was commissioned a 1st Lieutenant in the Medical Reserve Corps and early in 1917 he was ordered to take command of the Post Hospital at Fort Preble in the harbor defenses of Portland. The Hospital had not been receiving patients for sometime and there had been no medical officer on duty there. Whenever an undesirable enlisted man was assigned to the hospitals at Fort McKinley, Fort Leavitt or Fort Williams, he was promptly transferred to Fort Preble. Hence Dr. Whittier found that he was in charge of a fine crowd of scoundrels. The heating plant had not always been kept in operation, pipes in the hospital had frozen and burst. The mess sergeant had collected funds to pay the cost of the mess for the personnel but had in some manner avoided disbursement. Dr. Whittier was greeted by demands from the local merchants for payment for the groceries they had furnished. I have always suspected that he paid those back grocery bills out of his own pocket but I have no proof. The Doctor tried to reason with his men, to talk them out of their evil ways. When this failed to work, he started to prefer charges. He told me at one time that every man in his command had stood at least one court martial, some three or four. That scheme seemed to be bringing no

better results. Then suddenly we began to ship men abroad. The old timers were soon gone and in their places was a crowd of green men who had to be instructed in medical care.

The work at the laboratory in Brunswick was done by one or more student assistants with the supervision of the Doctor who was able to make the short trip from Portland each week. His medical school classes were all assumed by his assistant on the Faculty. Dr. Whittier was demobilized in 1919 with the rank of Major, which might be considered to be a proper rating to have started him with when he was called to duty.

In 1921 he suffered an attack of congestive heart failure. He gradually recovered and was able to return to his work. His duties must have been made lighter by the closing of the medical school which occurred soon after this illness. He died suddenly at Union Station in Portland, December 23, 1924.

When I first knew Dr. Whittier he was in his 54th year. He was a tall, spare man with broad shoulders, long arms and legs, the wiry type of man who frequently has great strength and endurance. The story is told how soon after the new gym was dedicated, the athletic director of a distant college came to visit. Dr. Whittier was showing the visitor the gym and this man remarked that the flying rings were improperly placed so that one could not travel down them the length of the room. Dr. Whittier grasped the first ring, swung himself down the length of the line, then back again and remarked that he guessed they were all right.

He never smoked or drank; he lived like an athlete in training except in one important detail — he had very little sleep and rest. The second Pullman went

through Brunswick at 2 a.m. and this used to be closing time at the laboratory. In 1916 the closing hour was changed to the time of the first Pullman, i.e. at midnight. Dr. Whittier was always an early riser. Three to five hours must have been his nightly span of sleep. He had a keen interest in young people and was popular with the student body. Students always referred to him as "Whit" or "Doc Whit," not that anyone would have ever considered addressing him in this manner. He was a kindly gentleman with a fine sense of humor, always quick to appreciate the funny side of things. Many colleges have a faculty member who possesses the ability to remember former students. At Bowdoin this was Dr. Whittier. Ask him about an individual and it was certain that he would remember the man's first name and his class, frequently some other fact such as his interests in college or some success he had achieved after graduation. Many a student who had not yet found himself and had failed to do his scholastic best owed his retention on the undergraduate roster to the fact that Dr. Whittier believed in him and had championed his cause.

At Bowdoin Dr. Whittier is remembered as one of the few in his generation who gave most to the college. The history of Maine medicine records him as our first clinical pathologist and for a long time our only one. In Maine medico-legal affairs, he is pointed out as our foremost expert for a quarter century. It is true that he first employed two of the important tests used in the detection of crime, and one of them he devised. Those of us who through good fortune knew him, consider him the sort of man we would care to emulate if we but had the ability, strength and courage to do so.

Peripheral Vascular Disease *

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I shall make no attempt to present a complete classification of peripheral vascular disease which can be found in any modern textbook on the subject. My remarks will be confined to those peripheral vascular diseases with which I am more familiar and have commonly encountered in medical practice.

Peripheral vascular disease is often only a part of general systemic disease. Subacute bacterial endocarditis and myocardial mural thrombi so frequently associated with coronary thrombosis and atrial fibrillation are a frequent source of sudden embolic occlusion of the periphery, at which time immediate surgical intervention in the form of nerve block with or without embolectomy is frequently imperative. In such systemic diseases as polyarteritis nodosa, Buerger's disease, polycythemia vera and arteriosclerosis obliterans (including arteriosclerosis in the diabetic), death from myocardial infarction, cerebral apoplexy or kidney insufficiency is the rule rather than death from the peripheral vascular complications.

ATHEROSCLEROSIS OBLITERANS

Atherosclerosis obliterans is the most common type of peripheral vascular disease seen in the average physician's office. Diabetics are especially prone to generalized arteriosclerosis, the early manifestation of which is frequently in the lower extremities. Intermittent claudication and abrasions with infection and gangrene, also present in other forms of vascular disease of the lower extremities, are all too common. After thirty years of experience in treating diabetics, I must continue to agree with those who advocate good control of the disease as compared to those who believe in the so-called "free diet." This latter term would seem to me to be a controversial one. If one believes this is a form of treatment which allows the patient to eat as much as he desires, varying the amount of food from day to day and gradually increasing both insulin and body weight, I want no part of this. If it means sufficient calories to maintain a normal body weight with a liberal amount of carbohydrate without marked fluctuations of blood sugar, I can see no valid reason for opposing it. With our present concepts of the role of

fat metabolism in vascular degeneration, it is probable that the diabetic has actually been allowed too much fat in the diet. As a matter of fact, when once the patient is stabilized on a definite amount of protein, fat and carbohydrate, it is usually possible to substitute considerable carbohydrate for the fat provided the total calories are not increased, and also provided the patient is on insulin. This is not, however, so easy to accomplish in a non-insulin diabetic where the paradoxical law of glucose is a factor in diabetic control.

The diabetic has a tendency to develop peripheral neuritis and the anesthetic foot which is frequently a precipitating factor in the development of gangrene. Quite often, without the patient realizing it, a blister may develop, a callus may undermine the plantar surface of the foot, or the toes may be cut while paring the nails; infection and gangrene may result.

With the exception of arterial degeneration associated with metabolic diseases, the cause of atherosclerosis is obscure. It is said to be a normal aging process, but it should be noted that eight hundred young soldiers died of coronary thrombosis during World War II. In doing cholesterol studies after test doses of fat in different age groups, it has been found that those under the fourth decade of life metabolize fat much more quickly than those in later life. Experimentally, hormone dysfunction seems to play some part in etiology. Prolonged nervous tension without relaxation seems to be an important factor in some families. The hard driving business executive who boasts that he has not had a vacation for several years, and who frequently goes to his office on Sundays to "clean up" his work, is a frequent victim of an early vascular accident. Some writers have recently stated that obesity appears to have little bearing on the incidence of coronary disease. This seems to me to be a rather broad statement to accept, inasmuch as ninety per cent of all adult diabetics have at some time been greatly overweight, and that fifty per cent of diabetics died of coronary thrombosis, with another fifteen per cent dying as a result of vascular disease of either the brain or kidneys. Furthermore, the average obese individual does not become so on account of the carbohydrate intake per se but as a result of the intake of fat which in recent surveys appears highly suspicious of being a factor in the production of atherosclerosis. It can usually be clearly seen in the x-ray film where it appears as a patchy process in contrast to the more benign generalized calcification called

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Mönckeberg's sclerosis. Mönckeberg thought this was entirely different from atherosclerosis, but more recently it has been felt that it represents a different manifestation of the same disorder.

The early symptoms of chronic peripheral vascular disease, especially in the lower extremity, are often overlooked and numerous arch supports, foot pads and frequent changes in shoes are the result of a mistaken diagnosis. A band-like sensation of compression in the arches extending upward to the calves is a frequent early symptom. This usually appears after the patient has walked a short distance and ceases after a short rest. Early color changes in the extremities are frequently present. Temperature changes may or may not be helpful in diagnosis. Decreased pedal pulsation in the affected limb is present in at least ninety per cent of cases. It should be remembered that about eight per cent of normal individuals have decreased or absent pedal pulsation. Later in the disease, pain at rest is common and when severe is a poor prognostic sign. At this stage of the disease, when gangrene frequently appears, both medical treatment and arterial reconstruction are frequently useless and amputation is the only helpful procedure.

Inasmuch as preventive therapy is the best therapy, we should use all means at our disposal at the present time; sufficient relaxation during each working week, and a time set each year for vacation; regulated exercise; the control of obesity and metabolic diseases; restriction in fat intake, especially in those with hypercholesterolemia; and the use of anticoagulants when necessary.

The treatment of atherosclerosis obliterans varies with the severity of the disease. All patients with abnormal circulation of the lower extremity should take painstaking care of their feet and should be cautioned against strong antiseptics, poorly fitting shoes, neglected calluses and hot soaks. Soaking in warm water is permissible but the temperature of the water should be first tested with the hands where the skin sensation is more likely to be normal.

Sympathectomy offers some hope for a small percentage of those who appear to be faced with inevitable amputation, but just who will respond is difficult to foresee. Three of my patients, all diabetics, in whom there appeared to be no hope of escaping amputation are, after sympathectomy, walking about comfortably without loss of any part of their limbs. It is a surgical procedure with low operative risk and in questionable cases should always be considered.

Arteriography is extremely helpful to the vascular surgeon in locating the level of the atherosclerotic block. If the block is complete and localized and sufficient collateral circulation has not taken place, arterial reconstruction should be considered especially in the presence of impending or actual gangrene where delay may result in sloughing and severe infection necessitating amputation. The surgeon must have an adequate arterial

bank at his disposal. At the Maine Medical Center, this has been under the supervision of Dr. C. Philip Lape who, in conjunction with other members of the surgical staff, has successfully performed several arterial transplantations. It should be said that in those patients without pain at rest and without actual gangrene, a waiting period is probably possible — during which time anticoagulants and possibly one or more of the vasodilators should be given a trial. If the patient is a diabetic, the disease should be controlled as well as possible bearing in mind that an increased insulin requirement is a danger sign even though the surface of the limb may appear relatively harmless.

When amputation is inevitable the level should be as low as possible, keeping in mind that the shorter the prosthesis the better functioning will be the artificial limb. Antibiotics, modern anesthesiology, improved surgical technique and a better understanding of electrolytes has reduced the amputation mortality rate from the frightfully high figure of twenty-five per cent to one to three per cent which is very favorable when one considers that the average age of this group will be about sixty-three. This was the average age of the last hundred of a series of five hundred of my surgical diabetics.

THROMBOANGIITIS OBLITERANS (Buerger's Disease)

This is an inflammatory disease which usually begins in the arteries, but may also involve the smaller veins. It first attacks the intima but soon invades the other coats of the vessel. Isolated thrombi may appear or the disease may attack the whole vessel until it has the appearance of what some authors have described as a fibrous cord.

In atypical cases the disease may begin with what appears to be ordinary thrombophlebitis associated with more leg pain than usual for this condition and periods of marked vasoconstriction or, as occurred some two years ago in a patient of mine, a pulmonary embolism associated with an unrecognized thrombophlebitis may be the first condition for which the patient seeks advice.

In the average instance, the more striking psychological change is a local impairment of arterial blood flow accompanied by paroxysms of severe arteriolar spasm. Infections, tobacco, etc., have been considered in etiology which is still unknown. It would seem probable that in Buerger's disease we have a definite vessel susceptibility; that is, the blood vessels of certain individuals are capable of reacting more easily to such toxins as infections and tobacco, thereby producing excessive proliferative response of the endothelial and fibroblastic cells. Analogous to this was in World War II when while overseas I had the opportunity of examining four thousand soldiers with "frozen feet." The history of previously cold and perspiring feet was present in a strikingly high percentage of these soldiers.

The disease most likely to be confused with thromboangiitis obliterans is arteriosclerosis obliterans. The

following are some of the more important points in differentiation:⁽¹⁾

	<i>Thromboangiitis Obliterans</i>	<i>Atherosclerosis Obliterans</i>
Age at Onset	Less than 50	Almost always over 40
Sex	Males 99%	Males 83%
Involvement of Upper Extremity	40%	Rare
History of Thrombophlebitis	40%	Never
Diabetes	Rare	20%
Hypertension	Rare	34%
Plasma Lypids	Normal	Frequently elevated
Calcification of Arteries	Absent	70%

When the pain in a patient of forty-five is confined to the lower extremities, it may at first be difficult to differentiate Buerger's disease from arteriosclerosis obliterans. Constricting-like pain in the feet and calves are identical. Impaired or absent pulsation in the distal arteries with color and temperature changes frequently resulting in gangrene are found in both diseases. A complete study of the patient will, however, after a short time usually establish the correct diagnosis.

The expectancy of life is uncertain in Buerger's disease. Some patients live a great many years and survive many amputations, finally dying of arterial thrombosis of either the brain, heart or mesentery.

The treatment is essentially the same as that of any severe vascular disease. The patient should get plenty of rest and tobacco must be omitted. The same special care should be taken of the extremities. Sympathectomy is much greater than in arteriosclerosis obliterans. Anti-coagulants should be used if a reliable laboratory is available, and the average patient will finally become so well stabilized that blood examinations will only be necessary every thirty to sixty days. This is the average length of time between tests in my patients who have been on anticoagulation for from three to thirty-six months. Patients with Buerger's disease frequently have osteomyelitis and for this reason suspected digits should be x-rayed.

RAYNAUD'S SYNDROME AND RAYNAUD'S DISEASE

These are confusing terms and it is apparent that Raynaud's original description included several diseases. Indeed, some more recent authors appear equally confused in their attempt to differentiate the syndrome from the disease. Just what type or types of cases should be included in each category is confusing and consequently it would appear more logical to include both under the same heading. Raynaud's syndrome is a symmetrical condition more common in females and characterized by intermittent changes in color of various local areas which usually precede trophic changes in the skin by varying lengths of time. It may occur associated with scleroderma, Buerger's disease and arteriosclerosis. Exposure to cold and emotional upsets are of great importance in production of the attacks. The trophic changes, usually painful, most frequently involve the ears, nose and the tips of the fingers and toes.

In the milder form of this condition change to a

warmer climate along with possible change of occupation in order to avoid excessive emotional strain may be extremely helpful. If these are impossible, warm clothing and avoiding unnecessary exposure to cold is beneficial. Tobacco should be avoided. Drugs, with the exception of nerve sedatives, appear to be worthless. Ganglionectomy may relieve the symptoms, but probably does not effect the underlying abnormal physiological process.

ACROCYANOSIS

This is a common condition, without predilection for either sex but in my experience more common in those of light complexion, in which hands and feet become a deep blue color when exposed to cold. The palmar surfaces of the hands and plantar surfaces of the feet are moist while the dorsal surfaces are dry. It is not especially painful but patients frequently complain of clumsiness, particularly in their hands when they are cyanotic. This was a common finding in colder climates during World War II and was a frequent cause of duty reclassification. Ulceration does not occur except in cases of frost bite or burning. The most effective therapy is to keep the hands and feet as warm as possible. Ganglionectomy may be considered in exceptional cases.

EMBOLIC THROMBOSIS

An embolus arising from either the heart or vessel wall may cause a sudden thrombosis in one or more of the peripheral arteries. This may occur as a result of auricular fibrillation, myocardial infarction, bacterial endocarditis and from a failing heart of any cause or from the artery itself, such as in aneurysm, an atherosclerotic plaque, trauma or infection.

In sudden arterial occlusion, the pain is severe in fifty per cent of cases. This is associated with a degree of temperature of the affected limb. The pulsation is decreased or absent, distal to the occlusion. The superficial veins are usually collapsed. Acute thrombophlebitis is the most common condition which can be confused with arterial occlusion but here the veins are distended in the first few hours and the skin is warm. In acute venous occlusion the arterial pulsations are usually normal but in rare instances the differential diagnosis may be difficult as severe temporary arteriolar spasm may accompany venous thrombosis.

The site of the occlusion is just distal to where normal pulsations are felt. The skin is usually tender over the thrombus and there are certain characteristic temperature changes. When the occlusion is in the popliteal artery, the change from normal to cooler temperature is just above the ankle; when the occlusion is in the femoral artery, the change in temperature is at the junction of the lower and middle third of the thigh; and when in the iliac, the temperature change is at the junction of the upper third and mid-thigh. Skin oscillometer is often helpful in locating the thrombus but is difficult to adjust on the upper third of a thick thigh.

The prognosis of survival of the limb, and perhaps eventually of the patient, is not good. Formerly, amputation followed the acute episode in about fifty per cent of any relatively large series of cases. However, technique is improving but it requires from two to five years for even a large clinic to accumulate sufficient data for appraisal. The disease which accompanies and causes the embolus may kill the patient. Many of these patients are in severe congestive failure. They have recently experienced a myocardial infarction or they may have chronic atrial fibrillation with or without mitral stenosis. Any of these conditions may continue to dislodge emboli in spite of rigid anti-coagulation.

A patient of mine, age 46, seen for the first time during this last spring when he entered the hospital with a large saddle embolus, was in severe congestive failure as a result of rheumatic heart disease and auricular fibrillation. It was necessary for the surgical consultant to wait three hours before removing the embolus until the ventricular rate and failure were brought under control with intravenous Ouabain. Another embolus occurred within six weeks but fortunately was small and did not require surgical intervention. A month later, mitral commissurotomy was successfully performed and it is hoped that further emboli will not occur.

The treatment of sudden embolic thrombosis is not one of continued watchful waiting. All patients are, in my opinion, prospective candidates for embolectomy providing the vessel is of sufficient size to allow the surgeon to adequately explore it. One should bear in mind that the ischemia is not entirely due to the mechanical influence of the plug but in part to the arteriolar spasm. Sufficient opiates should be given. The room temperature should be kept comfortably warm and draft-free. A hot water bottle applied to the abdomen may provide reflex vasodilation to the lower extremity which itself should not be heated. The oscillating bed when available may be valuable. Papaverine hydrochloride, gr. 1 intravenously or intraarterially, just above the occlusion has been used with questionable beneficial results but may be followed by a severe reaction. Spinal or caudal anesthesia or paravertebral block with procaine is indicated if the circulation is not at least partially restored within thirty to sixty minutes following the acute episode. Next comes the question of anticoagulants which are contraindicated until it is decided that surgery is not necessary. As a matter of fact, many of these patients are already receiving anticoagulants for the disease which has caused the embolus. In such instances, as in the case of Heparin, the discontinuation of the drug is usually all that is necessary, while in those who are receiving Dicumarol a large dose of Vitamin K1 oxide with, in some instances, a blood transfusion will take care of the low prothrombin level. The length of time one should wait before attempting embolectomy should be decided for the individual case. The popular advice to wait six hours before attempting

embolectomy is open to question. Thrombi organize quickly and as time goes on are more difficult to dislodge from the vessel wall. If the thrombosis is complete and partial restoration of circulation does not take place within two or three hours, it would seem practical at this point to attempt removal of the thrombus. Heparin can usually be started with safety in twenty-four hours after surgery.

THROMBOPHLEBITIS

During the past few years so much has been written on the subject of thrombophlebitis that it hardly seems necessary to discuss it at any length. There are, however, a few points worthy of repetition. Thrombophlebitis is a common cause of pulmonary emboli which are frequently responsible for sudden death. Both the recurrent and migrating types may be associated with unsuspected visceral carcinoma, especially of the lung, pancreas, kidney and pelvis.

Uncomplicated thrombophlebitis usually responds quickly to treatment. Anticoagulant therapy should be started at once and Heparin is probably the drug of choice in the early part of therapy. Later, if it seems necessary to continue anticoagulation, an oral anticoagulant is more practicable. The pendulum has swung back and forth for and against venous ligation. The decision should be left to the surgeon. In cases of high venous obstruction in the thighs, ligation of the inferior vena cava may be life saving as was recently demonstrated in a 65 year old patient of mine. In any event, after the acute symptoms have subsided, the use of the time honored elastic stocking should not be forgotten. Reliable laboratory facilities must be available, as in the case of the use of anticoagulants in any other condition.

POLYARTERITIS NODOSA

Polyarteritis nodosa, one of the collagen group, is a common cause of peripheral vascular disease and also frequently causes vascular degeneration in the brain, heart, kidneys and mesentery. It is a disseminated disease of unknown origin characterized by focal inflammatory lesions in the medium size and small arteries. Asthma and eosinophilia may be present sometime during the course of the disease in about twenty per cent of the cases, and for these reasons allergens are a suspected etiological factor. Pathologically, there is swelling and necrosis of the intima and infiltration of the adventitia with polymorphonuclear leukocytes and frequently eosinophiles. These changes may cause small aneurysms and thrombosis or the disease may go on to the healing stage with marked scar formation resulting in impaired circulation to the parts involved.

The symptomatology varies according to the location of the vessels affected. The disease may begin as an ordinary garden variety of rheumatoid arthritis or peripheral neuritis, retinal gastric hemorrhage, hematuria or bronchial asthma. A rapid sedimentation rate is a common finding. I mention these particular clinical

findings as one or more of them have been present in all patients whom I have seen with the disease.

The diagnosis is not always an easy one to make. Unexplained red cells in the urine when associated with pains in the leg, a low grade temperature, and elevated sedimentation rate should make one suspicious of polyarteritis nodosa. A muscle biopsy in a tender muscle should be done, but a negative finding is insufficient to rule out the disease especially if there are definitely known vascular complications.

The prognosis is grave but not necessarily fatal. There may be long remissions between acute attacks. One of my patients, a physician, whose only early symptom was recurrent attacks of asthma lived over ten years after his first attack of asthma, during which time he engaged in active practice. Death occurred during an attack of asthma and diagnosis was proven at autopsy. Another patient, a carpenter, had several periods of hospitalization for asthma during a period of four years, but worked at his trade between attacks until he succumbed from chronic renal failure. During the last year of his life a muscle biopsy was positive. At post mortem, there was no evidence of activity of the disease, but the kidneys were tremendously scarred with fibrous tissue. Another patient, a business executive, was first seen in 1942 when he complained of severe leg pain and had a rapid sedimentation rate with a low grade temperature. The patient recovered from his symptoms within a few weeks without any definite diagnosis having been made. He had no further complaints until 1946 when he entered the hospital with a gastric hemorrhage which in a few days was followed by a hemorrhage of the retina. Polyarteritis nodosa was suspected at this time and a positive muscle biopsy was obtained. A course of ACTH was suggested but the patient refused to accept it and was treated only symptomatically, with bland diet and sedatives, which was followed in a few weeks by apparent recovery except for a decrease in vision of the affected eye. There has been no recurrence of symptoms.

Benefit has been reported from the use of steroids in this disease. Unless there is some contraindication for their use it would seem as though a trial is justifiable. The dose should probably be reasonably large in the beginning, gradually tapering off to a maintenance dose which should be gradually discontinued if there is no improvement after a few weeks. I have had experience with steroids in this disease in only one patient, a man of sixty-five, whose chief complaint was pain in both legs with swelling in both ankle joints. The afternoon temperature ranged from 100 to 101 degrees. Cortone apparently was responsible for a decrease in temperature, but had no effect upon the subjective symptoms. The patient died from a cerebral accident three months after the onset of leg and joint pain.

SCLERODERMA

In scleroderma, a collagen disease of unknown origin,

the skin becomes tightly stretched and the deep layers undergo fibrosis which extends into the subcutaneous tissue involving the muscles and arteries. There is atrophy of the terminal digital phalanges which may be destroyed. The process as a whole can be a very destructive one and may produce severe changes in the larynx, esophagus, heart, lungs, kidneys and bladder. The diagnosis is usually established by means of skin biopsy.

The treatment is unsatisfactory. Spontaneous arrest takes place in some instances and this may be the reason for the rather recent optimistic reports of therapy in a small percentage of cases following the use of steroids.

POLYCYTHEMIA VERA

Polycythemia vera may be the cause of acute or chronic peripheral vascular disease. Prevention of thrombi is the best therapy. In this disease, the blood is thick so to speak, the platelets are increased and the hematocrit is elevated. It should be controlled with either radioactive phosphorus, x-ray spray or sufficient bleeding to keep the hematocrit at fifty or below.

RETROPERITONEAL TUMORS AND DISEASES OF THE LOWER BACK AND PELVIS

The above mentioned may produce pain in the thighs similar to that which has been described as claudication due to sclerosis of the pelvic vessels. Pain on the inner side of the thigh extending to the knee due to tuberculosis of the hip was a common complaint in the days when bovine tuberculosis was common. Arthritis and new growths, including multiple myeloma, are a frequent cause of leg pain, and sometimes erroneously attributed to vascular disease. A complete physical examination including x-ray films will usually establish the correct diagnosis. Pain in the leg, usually unilateral, may be the first symptom of a metastatic retroperitoneal tumor which is in most instances accompanied within a short time by edema in the leg. An x-ray plate of the pelvis will sometimes demonstrate the tumor, the exact nature of which may be impossible to determine without an exploratory or biopsy.

SUMMARY AND CONCLUSION

The more common peripheral vascular diseases have been discussed. In an unfortunately large percentage, a therapeutic cure is impossible because we do not know the etiology. We have been and are making, however, considerable progress in a better control of metabolic diseases, in the prevention of rheumatic fever with antibiotics, in the attempt to decrease the incidence of atherosclerosis and in handling patients with coronary disease and cardiac arrhythmias. These accomplishments in addition to the remarkable progress in cardiovascular surgery should greatly enhance our ability to reduce the morbidity and mortality of a large group of peripheral vascular diseases.

Differential Diagnosis and Treatment of Rheumatoid Arthritis

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INTRODUCTION

The most common cause of chronic illness in the United States is the group of rheumatic diseases. Approximately 7,500,000 Americans have arthritis or some other form of rheumatic disease. It has been estimated that nearly twice as many persons suffer from rheumatism as have neoplastic disease; and ten times as many suffer from rheumatism as have either tuberculosis or diabetes. In fact, rheumatism is more common than the total number of cases of tuberculosis, diabetes, cancer and heart disease combined. It was indicated by the National Health Survey (revised 1939), that the rheumatic diseases are first in prevalence, second in disability and fourteenth in mortality in this country.

Those suffering from rheumatic diseases include every age group from childhood to old age. In the United States, 30,000,000 people, counting the families of arthritics, are concerned with the medical, social and economic reflections of this problem. The National Health Survey of 1939 revealed that 97,200,000 days of work a year in the United States were lost as a result of rheumatic disease; amounting to a \$500,000,000 annual loss. Obviously, industry is greatly affected by this disease. During the war years from 1943 to 1945, even among the highly selected groups of military personnel, rheumatic disease accounted for a loss of 275,000 man-days. The hospital care of arthritic patients has been neglected as shown by the fact that there are only 65 specially endowed beds for arthritic patients as compared with 100,000 free beds available for tuberculosis patients. The estimated yearly cost of medical care alone for the total number of rheumatic disease patients in this country exceeds \$100,000,000. Consequently, this group of diseases presents one of the most important social, economic and medical problems.

Other countries have recognized the prime importance of the rheumatic disease problem and have formulated plans for nation-wide attacks. The Scandinavian countries have a well organized plan for treatment and control. This is also true of Great Britain. Canada too has initiated action in establishing a rheumatic disease program.

The magnitude of this problem is manifested by the incidence of the diseases and by the many reflections in the social and economic aspects. The rheumatic disease group is one of the oldest described in medical writings, but it is also one of the most neglected fields of medicine. Although there is a great deal that can be done immediately to benefit the patients afflicted, it must be appreciated that all the rheumatic diseases with the exception of the traumatic and specific infectious arthritides are of unknown etiology and pathogenesis, and are without specific therapy.

The American Rheumatism Association recognized the seriousness of this problem and initiated action to correct the situation. A first step taken by the Association was to request the National Research Council to undertake a survey designed to serve as a basis for the development of a comprehensive long-term research program in arthritis and other rheumatic disease. This study was to serve two purposes: 1) to determine what investigations on rheumatic diseases are now in progress; 2) to suggest possible lines of research in the field of rheumatism. As a result of this request, a Committee was established by the Research Council with members representing the various disciplines concerned with rheumatic diseases.⁽¹⁾

The preceding paragraphs copied from the final report of the Committee for Survey of Research on rheumatic diseases of the National Research Council indicates the magnitude of the problem concerned with the rheumatic diseases. Through the efforts of this committee a much larger interest has been shown in these diseases and considerable money is being spent in research. Almost two million dollars of federal money is spent for grants and fellowships annually. The American Rheumatism Association through voluntary donations has also made available many fellowships in rheumatic diseases and is financing research in these conditions throughout the entire United States.

DIFFERENTIAL DIAGNOSIS

Doctor Walter Bauer⁽²⁾ in his opening remarks to the Research Committee of the National Research Council defines rheumatoid arthritis in the following terms: Rheumatoid Arthritis is a systemic disease involving

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other tissues than articular structures. Constitutional symptoms are present in advance of joint disease or may even overshadow the joint manifestations. Diagnosis at this stage may be difficult and it may require six to twelve months before the clinical picture is recognized.

The constitutional nature of the disease is evidenced by the wide-spread involvement; such as cutaneous lesions (rash, pigmentations), subcutaneous nodules, ocular involvement (iritis, uveitis), cardiac lesions (pericarditis), muscular atrophy, peripheral nerve involvement, premature aging of the spinal cord, etc. The subcutaneous nodule is the most pathognomonic lesion of this disease entity.

It has long been a truism that anyone can diagnose a typical case of anything. This is certainly true in rheumatoid arthritis, but when a case does not present the usual findings of symmetrical, progressive joint disease with obvious systemic manifestations, not only is the diagnosis difficult but many other conditions must be considered at this point. The list of differential diagnoses must include psychogenic rheumatism; periarticular fibrositis; palindromic rheumatism; sub-acute or recurrent rheumatic fever; Reiter's syndrome, traumatic arthritis, degenerative joint disease, specific infectious arthritis, gouty arthritis, collagen disease and a host of other conditions which under certain circumstances might be confused with rheumatoid arthritis, such as various allergic reaction, endocrine disorders, circulatory disorders, and mechanical skeletal disturbances. It would be completely impossible to discuss each of these conditions adequately but some of the commoner and more important ones will be commented upon.

The term psychogenic rheumatism has been applied to the skeletal pains which accompany symptoms associated with psychoneurosis. This is a very large and disturbing group of patients as it is frequently difficult to do more than make this diagnosis by exclusion. In general these people complain of bizarre symptoms which do not fit well into any of the recognized disease entities or syndromes but may be quite incapacitating. This condition is quite common even in the younger group and of soldiers admitted to various military or veterans administration hospitals complaining of rheumatic pains, between fifteen and forty-two per cent are discharged with a final diagnosis of psychogenic rheumatism. If a person complains of constant joint pains which are not relieved by salicylates or heat, the diagnosis of psychogenic rheumatism must be considered. Frequently there is a reversal of the normal pattern of morning pain and stiffness which is associated with rheumatoid arthritis and in general even though the patient may insist that the pain is incapacitating, close questioning reveals that they have not used any of the remedies prescribed such as salicylates or heat. In general these patients will have a multitude of symptoms in addition to their rheumatic complaints. The laboratory studies done on these persons will be in general

within normal limits. A careful appraisal of the patients' emotional stability is some help in arriving at this diagnosis.

Periarticular fibrositis is another condition which some men refuse to recognize as a specific disease entity. In general the constitutional symptoms associated with rheumatoid arthritis such as weight loss, evening fever, elevated sedimentation rate, etc. are lacking. In general it is better to reserve this diagnosis for the cases in which there is obviously no associated psychiatric disease, where there is absence of objective laboratory and physical findings consistent with rheumatoid arthritis and when the symptoms are confined to the muscular skeletal system. In addition there should be a consistent pattern of joint symptoms with morning stiffness and relief with applications of heat or salicylates.

An additional variant seems to fall between the fibrositis syndrome and true rheumatoid arthritis. It is a condition which is rapidly gaining more recognition under the term "rheumatic disease of the aged." In general these patients have the findings of periarticular fibrositis as far as symptomatology and physical examination go, but have the usual laboratory findings of rheumatoid arthritis in that they are anemic and do have an elevated sedimentation rate. This disease is much commoner in people over 60 although cases have been reported in people in their forties. One of the features of this illness is the dramatic response to small doses of steroids. I have recently seen a woman in her mid-sixties who was admitted to the hospital by stretcher because motion of any part of her body produced severe muscular pain. There was no objective evidence of joint involvement. She was running a low-grade fever, her sedimentation rate and white count were elevated, and she showed a moderate anemia. She failed to improve on physiotherapy and large doses of salicylate but after 20 mgms of prednisolone she was up walking around within 24 hours, completely pain free. Her fever had returned to normal and she has subsequently been maintained on 5 mgms. of prednisolone daily without the return of her fever or elevation of sedimentation rate. On this dose she has mild aching occasionally which is controlled by addition of salicylate on these days of distress.

Palindromic rheumatism is a rare but extremely interesting form of recurring afebrile attacks of acute arthritis. It was originally felt to be a variant of rheumatic fever. It is usually manifested by multiple attacks of acute arthritis with pain, swelling and redness of generally one or two large joints. The attack may appear suddenly, develop rapidly and last only a few hours or days with complete recovery. In this regard it may be confused with gouty arthritis. Hench and Rosenberg⁽³⁾ feel that this is a different condition than rheumatoid arthritis because of the totally different pattern of arthritis, the tendency for only one or two joints to be involved in an attack, the frequent isolated

short attacks of para-arthritis, the general absence of constitutional reaction, the relative absence of the effects of season and weather, the sedimentation rate which is relatively normal, the moderate increase rather than decrease in red blood counts, consistently negative x-rays and the difference in pathological reaction. The greatest and most significant difference is the persistent absence of chronic arthritis even after scores or hundreds of attacks and years of disease. Coggeshall,⁽⁴⁾ on the other hand, reports one interesting case of severe crippling rheumatoid arthritis which was preceded four years by what appeared to be palindromic rheumatism.

One of the most difficult differential diagnoses in medicine is the differentiation between rheumatic fever and acute rheumatoid arthritis. Frequently the differential diagnosis is impossible in the early stage and time alone will provide it. The primary criterion between these conditions in the early stages is response to adequate salicylate therapy. In rheumatic fever the response is usually dramatic with complete relief from pain, and return of temperature to normal. There is usually temporary relief but not dramatic response to salicylates in rheumatoid arthritis. An electrocardiogram is abnormal in between 25 and 40% of rheumatic fever patients. Anti-streptolysin titre is usually normal in rheumatoid arthritis and increased in rheumatic fever. Age may be of some help in that 90% of arthritics have their first attack after the age of 15 whereas 90% of the persons who have rheumatic fever have their first attack under the age of 15. Rheumatic fever produces no permanent joint damage so that the appearance of permanent joint damage or x-ray findings of arthritis are in favor of rheumatoid arthritis rather than rheumatic fever. For years it was thought that rheumatoid arthritis produced no heart damage, but in the past few years attention has been called to the development of aortic insufficiency in patients with rheumatoid arthritis. Development of any kind of carditis, however, would favor the diagnosis of rheumatic fever.

Joint manifestations are seen in many acute infections including gonorrhea, tuberculosis, syphilis, brucellosis, etc. These may at times be confused with rheumatoid arthritis but if a high index of suspicion is present and appropriate laboratory tests are employed there should be no difficulty in differential diagnosis.

In a few instances gout may present a difficult diagnosis but it is usually not a difficult problem. 98% of the cases of gout appear in males. Gout is uncommon under the age of 35. In typical cases the onset is explosive, in a previously normal individual with no symptoms between attacks. Involvement of the great toe occurs in 70% of the cases in the initial attack and sooner or later in about 90% of the patients. Tophi are seen in 50% of the cases. The blood uric acid is usually elevated above 6 mgm. during the acute attack but may be normal in the intercritical phase. Joint involvement is usually not symmetrical and fusiform swelling of joints does not appear. In a few cases where

the diagnosis is in doubt, the dramatic response of the patient to adequate doses of colchicine is diagnostic of gout. If the patient does not respond to colchicine one should suspect that the diagnosis is incorrect unless the dose has been inadequate or the medicine has not been retained.

Degenerative joint disease is sometimes confused with rheumatoid arthritis although the diagnosis in most cases can be made on the history alone. Most of the cases of degenerative joint disease appear after the age of 40 years, whereas rheumatoid arthritis commonly occurs between the ages of 20 and 40 years. Heberden's nodes are quite common in degenerative joint disease. Constitutional symptoms are, in general, absent. Joint effusions are rare. There are no subcutaneous nodules. Except in the earliest stages there is usually no difficulty in making the diagnosis by x-ray.

Much has been said about the collagen diseases and time does not permit any real discussion of them here at this time. Arthritis is more often a feature of disseminated lupus erythematosus than of periarteritis nodosa and the diagnosis is usually made when either the patient fails to respond to the usual treatment for rheumatoid arthritis and additional explanation of symptoms is required; or when it becomes apparent in the course of treatment that other systems are involved, such as the appearance of asthma, myocarditis, nephritis, etc. An LE cell preparation should be obtained as a part of the work-up in any arthritic patient who fails to respond to the usual measures. Biopsy may be an essential in differentiating other members of the collagen diseases.

Within the past two years there have appeared frequent reports in the literature which have been referred to as the Hydralazine Syndrome.⁽⁵⁾ The wide-spread use of Hydralazine or Apresoline as a hypotensive agent in the treatment of essential hypertension make it probable that we shall be seeing much more of this condition. It has been reported in 7½-10% of patients who have received an average of 600 mgms. or more of Apresoline daily over a long period of time, averaging 12 months or more. In most cases the syndrome developed as the diastolic pressure falls to 90, and in some cases it appears to be definitely precipitated by intercurrent infection. Initially there may be chills and migrating joint and muscle pains. Later there is frank arthritis with frequently a symmetrical involvement of the proximal interphalangeal joints. At this stage the syndrome clinically resembles rheumatoid arthritis. However, if Hydralazine administration is continued, the syndrome supervenes which clinically resembles acute disseminated lupus erythematosus. The syndrome generally subsides when the drug is withdrawn, and is generally, but not always reactivated by the re-administration of Hydralazine. Occasionally the syndrome persists after the withdrawal of the drug but can be suppressed by the administration of Cortisone. When fully developed the syndrome may be manifested by

fever, prostration, pleural, pericardial and joint effusions, skin sensitivity to ultra-violet light, erythematous rashes similar to lupus, lymphadenopathy and splenomegaly. Laboratory studies may show decreased serum albumin, increased alpha and gamma globulin, increased sedimentation rate, transient false positive tests for syphilis, anemia, leucopenia and occasionally LE cells in peripheral blood and bone marrow. In one case a typical rheumatic nodule was seen. It must be emphasized however, that only a minority of cases present the full-blown picture just described. Nevertheless, taken together it is obvious that the main features closely parallel the serologic and histologic picture which we associate with severely active phases of the collagen diseases, particularly lupus. There are however, some important differences. We may note, for instance, reversability of the Hydralazine syndrome, the preponderance in males, the low incidence of LE cells even at the height of the febrile symptoms; the paucity of urinary findings such as hematuria, cylindruria and proteinuria. At present, it is preferable to think that this represents an induced rheumatic state rather than attempt to decide that it is or is not identical with rheumatoid arthritis and/or acute disseminated lupus. The Cleveland and St. Louis groups of workers are against the theories of allergy or sensitization as the explanation for this syndrome. They present evidence that there is a quantitative progressive depletion of some substance in the body, and they have actually demonstrated the depletion of sulfhydryl radicals in the urine. Additional study will be required to show the actual mechanism involved in the development of the syndrome and it is thought that some light may be thrown on the mechanism involved in the spontaneously occurring collagen diseases.

To date there have been no good laboratory tests useful in the diagnosis of rheumatoid arthritis. A little over a year ago, however, a sensitized sheep cell agglutination test was described using the EU-globulin fraction of serum.⁽⁶⁾ This test was positive in 92% of 82 patients with adult peripheral rheumatoid arthritis with only 2% false positive reactions in 104 non-rheumatoid control patients. It is hoped that this test may soon be modified to make it a feasible standard laboratory procedure for the diagnosis of rheumatoid arthritis. It is interesting to note that the test was entirely negative in all cases of adult rheumatoid spondylitis and in patients who had arthritis associated with psoriasis.

TREATMENT

Over a period of years certain therapy for rheumatoid arthritis has stood the test of time and has been shown to be of real value. The first, and one of the most important, is adequate mental and physical rest. A change of environment may be required, such as a period of hospitalization. A period of several weeks or months of bed rest may be essential in the care of cases with active generalized rheumatoid arthritis. Bed rest should be insisted upon in the acute febrile stages

of the disease with severely inflamed joints, in patients whose arthritis is progressing rapidly even though there may be no fever and no acute inflammation of the joints, in patients with marked inflammation of weight-bearing joints, or in those with marked constitutional manifestation. If prolonged bedrest is necessary it must be stressed that the patient must not lie completely immobile in bed. The bed should have a firm mattress, and a non-sagging spring. He should be taught the proper positions for rest of the extremities to avoid contracture deformities. He should be encouraged to use muscle setting exercises and as soon as tolerated graded active exercises. Weight bearing must not be begun if there is extreme muscular atrophy of the legs, or if the knees are fixed in flexion or the legs are not in good alignment.

Rest of the involved joints may at times be essential even though active bed rest is not required. Severely swollen joints should be immobilized whenever possible by splints, with the joint in the position of physiological rest and the position of maximum function if ankylosis is inevitable. When splints are used they should be removed at least once a day and the joints moved several times through the full range of motion, short of producing severe pain.

Physiotherapy is one of the most important tools at our disposal in the treatment of rheumatoid arthritis. Heat, massage and exercise are the principle modalities which are of value. Heat may be applied in any convenient form which produces the greatest relief of symptoms. Paraffin baths for the hands, hot packs for the larger joints or infra-red radiation for larger areas are all of value. Diathermy is not essential in the treatment of rheumatoid arthritis and probably has its greatest use only in conditions where calcification is present such as in sub-deltoid bursitis. Exercise is extremely important in the therapy of rheumatoid arthritis but too much exercise may cause more harm than good. Even during the acute phases motion should be performed at least once or twice a day. Active exercises, however, should not be begun until the joint is without pain while at rest. A patient should never be exercised to the point of persisting pain or fatigue. Marked muscle spasm during an exercise is a signal for cessation of the movement. Fibrillation of muscles signify that the exercise is too strenuous. All periods of exercises must be followed by an equal period of rest. Massage is quite important and should be carried on by a competent physiotherapist.

There is no specific diet applicable to all patients with rheumatoid arthritis except a sensible intake for that individual; high in vitamins and calories and adequate in calcium, phosphorus and iron.

Relief of joint pain is essential as pain prevents proper rest, sleep and exercise as well as reducing the appetite, which are important factors in the recovery of the process. In addition to the measures of rest and physiotherapy already described for the relief of pain,

drug therapy is essential. Salicylates are by far the best analgesic drugs used in rheumatoid arthritis. They should be used in a dosage sufficient to relieve the pain or cause toxic effects. If gastric irritation is encountered, enteric coating may obviate this difficulty. As a general rule for relief of arthritic pain the salicylates should be tried first. If this is inadequate phenylbutisone may be tried. If this also is inadequate, or not tolerated, then steroid therapy should be considered.

Essentially all patients with rheumatoid arthritis have emotional difficulties. They are usually introspective, and fretful. They lack confidence in themselves and often are seemingly unreasonable in their demands. Psychotherapy is essential in the handling of these patients. The psychotherapy does not have to be formal but the physician's attitude toward the disease and the method in which he explains various happenings can be of extreme importance. Considerable improvement in morale follows the reporting of even minute decreases in swelling or increases in range of motion.

Such little things as the decreases in the sedimentation rate or increases in the hemoglobin content should be passed on with an air of optimism. Minor flare-ups or increased pain can be blamed on the weather or some other factor. The patient should never be allowed to consider that it is his fault as this adds to his depression. In taking the history one should be constantly on the look-out for both major and minor emotional factors as exacerbations are commonly produced by emotional upsets. In many instances it is imperative to seek the help of a psychiatrist if improvement is to be forthcoming.

The orthopedic surgeon can be of great help in preventing and correcting deformities. The use of such things as corsets, braces, proper shoes and plaster splints can prevent spasm and therefore prevent deformity. If deformity has already occurred surgical intervention may allow for restoration of function.

Blood transfusions were frequently used in the past to correct the anemia which was usually found. The incidence of homologous serum jaundice however has been sufficiently high to make many men abandon this procedure.

Today we are much less radical in the treatment of foci of infection than in the past. It was a rare rheumatoid patient in the past who kept his teeth, tonsils, appendix and gall bladder very long or avoided having his sinuses washed out frequently. Today the feeling is that only obviously infected organs should be removed and then mainly in the interest of improving the patient generally rather than for the effect on his rheumatoid arthritis.

X-ray therapy is of no value in the routine treatment of rheumatoid arthritis but does produce marked objective and subjective improvement in rheumatoid spondylitis.

Prior to the advent of steroid therapy gold sulphydril compounds were the only drugs available which could

produce a remission in a high percentage of cases. Adams and Cecil⁽⁷⁾ reported 66% remission with the use of gold salts if they were administered during the first year of rheumatoid arthritis as compared with 24.1% of a control group treated with conservative measures only. One of the disappointments of gold therapy is the high relapse rate which ranges as high as 75% in a three year follow-up study. In the past gold has always been given in courses with a maximum dosage of approximately 1 gram. In an effort to prevent the high relapse rate some men have been giving a small injection once a month over an indefinite period of time following the initial course of 1 gram of gold. To date the figures are not adequate to form any definite conclusion.

Following the original report of Hench and his collaborators that the steroids produced uniform, quick improvement in patients with rheumatoid arthritis, many men felt that the panacea had been found. It soon became apparent, however, that the hormones did not cure rheumatoid arthritis but merely suppressed the disease and that relapse usually occurred quite promptly with the cessation of the drugs. Then followed in rapid order the many reports of serious side-effects and complications with steroid therapy. Since these drugs have been in wide-spread use for many years now it is interesting to see the results of prolonged therapy. Bunim⁽⁸⁾ has reported a 4-year appraisal of Cortisone therapy in rheumatoid arthritis. His report covers 71 patients who were observed for a total of 4 years. The average daily maintenance dose was 25-50 mgm. in one third of the patients, 60-75 in another third and 80-100 mgm. in the remainder. Their experience showed that a maintenance dosage of more than 100 mgm. a day was exceedingly dangerous and serious complications developed. The results estimated at the end of 4 years of observation indicated that 23% of the patients were in remission, 28% experienced major improvement, 42% minor improvement and 7% failed to derive any benefit from the Cortisone. The most striking response was observed in the group that had had arthritis for one year or less, and the least favorable effect in the group that had had the disease for longer than ten years. Of 45 patients who were unemployed prior to the onset of Cortisone therapy, 21 were employed on a full-time basis, and 13 on a part-time basis, leaving only 11 patients still unemployed. 17 patients were bedridden prior to Cortisone therapy. Following Cortisone 13 of these were able to walk without any aid, 2 required a cane, crutch or wheel-chair, and only 2 remained bedridden. 31 patients were incapacitated and unable to take care of their daily personal needs before therapy and of these 25 became self-sufficient after Cortisone was administered. One of the most important questions is whether Cortisone significantly alters the natural course of the disease despite the so-called improvements and remissions which are seen with Cortisone therapy. In an effort to determine this factor

Bunim made serial x-rays on 20 of his patients selected at random. 14 of these patients were found to have had some destruction of the sub-chondral bone immediately before Cortisone was instituted and 6 had none. In the group of 14 with pre-existing areas of destruction there was an increase in the destruction in 8 patients, 5 remained essentially unaltered and in one patient the area had apparently diminished. In each of the 6 patients in the group who presented no radiographic evidence of osseous damage prior to Cortisone therapy there appeared new areas of destruction during Cortisone therapy. It is especially interesting to note that in 5 of these 6 patients there were objective and subjective clinical and also laboratory signs of improvement despite unequivocal radiographic evidence of progression of subchondral bone destruction. Undesired side-effects were found in 84% of the females and 70% of the males on Cortisone therapy. Peptic ulcers developed in 5 of the patients. It is felt that the patients most suited for hormone administration are those whose disease is severe, reversible, is relatively early and is following a rapidly progressing relentless course. It may also be useful in patients who have not responded well to, or are unable to tolerate other anti-rheumatic drugs. It is clear that the majority of patients can tolerate maintenance doses of Cortisone for several years without becoming refractory and without developing clinical symptoms of adreno-cortical insufficiency. The impressive assets of these hormones consist of a high rate of therapeutic response, especially in the first few months of treatment, relatively early recovery of good functional capacity with restoration to employability and self-sufficiency, and aid in implementation of an effective rehabilitation program. Most of the undesirable side-effects are reversible, and in fact may disappear even during continued administration. Certain limitations of steroid therapy have become apparent. These consist of failure to appreciably alter or arrest the pathological processes of the disease; frequent occurrence

of relapses, at times quite severe, when the drug is discontinued; and the development, in some cases, of serious complications or side-effects of prolonged Cortisone therapy.

Our experience in the Arthritis Clinic at the Maine General Hospital closely parallels these results. Of 69 patients with rheumatoid arthritis seen in our clinic 16 have been placed on steroid therapy. Of these only 6 are still being followed on these drugs. 3 of these patients are in remission. Our major complications have consisted of 2 patients who developed ulcers and 1 who perforated a diverticulum; 2 patients have been complicated by diabetes. It is also interesting to note that there are 4 remissions among the patients treated with aspirin and physiotherapy alone.

Steroids have not proven to be the panacea for rheumatoid arthritis which was originally hoped for but they have been an extremely useful tool in the management of this complicated disease. Their major contribution to the field of rheumatology seems to have been a re-awakening of interest in the rheumatic diseases so that now the patient with rheumatoid arthritis is receiving adequate study and care whereas previously he was all too often told that there was nothing to do but go home and take aspirin.

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Concerning the Concept of Psychosomatic Illness

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In the past fifteen years steadily increasing attention has been paid to the term "psychosomatic," and increased reference has been made to the different type of approach to the patient which this term implies. There has been a parallel with the history of the word "hysterical" in that increased use has led to abuse and all types of phenomena, in which some connection between physical health and emotional state have been discerned, have found themselves explained away as psychosomatic. In this broad general area one thinks of varied examples, in some of which changes in the soma lead to definite changes in the psyche, while in others the reserve seems clearly apparent. Falling within the former group is the case of the seemingly stable and successful man who reacts to the threat of a severe illness by subsequently reverting to a behavior pattern which is dependent, immature, and pleasure-seeking at the expense of all long-term adult goals and standards. Correspondingly, emotional stress quite definitely precipitates physical illness in the case of a man who has a coronary occlusion following some anger-provoking situation.

Instances of such relationships have been noted by all physicians, and are a matter of common observation even among people with no medical training. However, we are dealing here with the broadest territories encompassed by the term "psychosomatic." In the center of this area lies a more provocative entity — the concept of the true psychosomatic illness.

The foundations upon which this concept rests are generally considered to be two: Cannon's demonstration of the physiological changes which are the inevitable accompaniment of emotion; and Freud's demonstration of the Unconscious. Pavlov's work on conditioning, while of profound importance, does not seem nuclear in this. Put in the most succinct terms, one may hypothesize from Cannon's and Freud's contributions that, "If emotions lead to physiological changes, and if emotions may themselves be at an unconscious level, then unconscious feelings may lead to physiological reverberations." Accordingly, two basic statements may be made concerning the disturbances of function which mark a psychosomatic illness. First, the physiological changes which the patient exhibits are precisely those which normally accompany a conscious emotion. Secondly, these changes tend to persist, rather than being transitory, since the emotion, being unconscious, does not lead to adequate action and discharge. More recently it has been pointed out that the essential factor in this

second statement is the lack of adequate discharge for the emotion; and it has been suggested that *conscious* emotion may lead to the same pathological result if something in the environment or in the individual's personality pattern inhibits its expression.

In our culture two emotional constellations around which there tends to be significant conflict and guilt are those of anger, and, superficially a diametric opposite, dependence and the wish to be taken care of. It is for this reason that hypertension and peptic ulcer have particularly attracted the attention of those interested in psychosomatic investigation, for in hypertension one sees, protracted through time, the physiological accompaniments of anger; while in peptic ulcer one may be witnessing the result of chronic gastric hyper-secretion, explainable as an expression of the need to be fed.

That there is a sharp distinction between hysterical and psychosomatic phenomena is at once apparent, for the latter are always mediated through the autonomic nervous system, while in the hysterical patient the complaint always centers around either a sensory or motor innervation, with the basic difficulty at a cortical level, and with some symbolic purpose or meaning always inherent in the symptom.

In his approach to the medical patient the psychiatrist, in a sense, occupies the third corner of a triangle, the other two being held by the pathologist and the bacteriologist. If the bacteriologist is primarily interested in the diseases of man in which infection plays a leading etiological role, and the pathologist is concerned with the processes of aging and abnormal proliferation, the psychiatrist is preoccupied with those disturbances which are intimately related to activity within the autonomic nervous system. Particularly is he interested in such illnesses when they appear in patients under thirty, since here he seemingly finds them in the purest culture. In a patient of fifty, a gastric ulcer may well suggest a malignancy. In a boy of twenty, one thinks more of the possibility that the change in functioning may be tied up with some change in the environment — the word used in its broadest sense, to include the people who are significant to him — and his fluctuating relationship to this environment.

Other illnesses have attracted attention as perhaps psychosomatic, particularly asthma, ulcerative colitis, and atopic dermatitis; and the psychiatrist has been brought face to face with the problem of specificity. Why, under stress, will one patient have a coronary,

while another patient will have an asthmatic attack? To the extent that there is validity in the psychosomatic view of functional illness, there should be a satisfactory answer to this question. Few psychiatrists are persuaded that this criterion has thus far been met beyond argument, but provocative work has been done. This has tended to follow four different lines of thought.

1. A viewpoint which seems nonspecific from the psychiatric standpoint places the primary emphasis on congenital, or acquired, organ-or system-weakness, and postulates that at times of emotional stress the dysfunction will make itself apparent. This is not a true psychosomatic line of approach.

2. Closely related to the above is the concept that points to the possible importance of either sympathetic or parasympathetic predominance within the autonomic nervous system. That many individuals *do* tend to have such a life-long preponderance, detectable early in childhood, has been suggested by experiments utilizing both a pharmacological and a "general stress" approach. Pursuing this line of thought, one would predict that all sympathicotonic individuals would, under emotional stress, tend to have cardio-vascular difficulties, while the parasympatheticotonics would develop predominantly gastrointestinal disturbances. Statistical validation in this has been disappointing; and here, too, we are dealing with an approach that is more physiologic than psychiatric.

3. Thirdly, there has been the hypothesis that the type of illness depended on the type of personality make-up. This avenue was perhaps most fully explored by Doctor E. Flanders Dunbar, who did much of the pioneering work in the whole field. Her descriptions of the hypertensive personality, the asthmatic personality, the coronary personality, etc., have proven to be frequently contradictory, and statistically invalid; and this general approach has led to seeming excesses, such as speculations concerning the Parkinsonian, and the multiple sclerosis personalities, etc. — excesses in that the personality make-up has been thought to predispose to the illness, rather than the more obvious reserve.

4. A line of thinking which in many ways is more satisfying, places emphasis on both the type of stress

and the basic emotional problem. This is not the same as Doctor Dunbar's approach, since the same emotional problem may underlie entirely different personality-types, and the problem may be handled by entirely different defenses. For example, one individual with a deep dependency problem may be aware of it, and may openly crave reassurance and support; while another individual with the same basic problem may hide it from himself, and appear exaggeratedly independent, showing resentment at all offers of encouragement or even affection. The *type* of stress is important in that symptoms will not eventuate if a sensitive area is not affected. Thus, a situation which threatens the disapproval of one's mother will not produce asthma in a patient with a basic problem in the area of anger, nor will a relationship that breeds unconscious resentment lead to hypertension in an individual with an underlying problem that is predominantly sexual.

This inclusion of both stress and personality as etiologically important is the general position of current psychiatric thinking.

Physicians are interested not only in curing illnesses, but in their causes. What relevance these remarks may have for the general practitioner would seem to lie primarily in the latter, although a different approach to the former is implicit. The administration of drugs in functional illnesses is aimed at influencing the altered function, and is frequently done on the premise that the dysfunction is "the cause" of the illness, having come about more or less spontaneously. The psychiatrist offers as a concept to be further tested, the hypothesis that the altered functioning is actually a "result," and that the true cause is to be found in the interaction of "life-stress" and in the patient's particular personality make-up. It is his belief that the younger the patient the stronger is the probability that such is the case. Although few physicians will ordinarily have the time to attempt any searching investigation of the personality make-up, a doctor is nevertheless often in a position to evaluate environmental stresses, and, even more important, to help the patient work out a satisfactory solution to the problem which these present. In so doing he may be pleased to find that he has effected a cure.

Some Skin Manifestations of Systemic Diseases *

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INTERNAL MEDICINE

The first manifestation of an internal disorder frequently appears on the skin. The symptom may be in the form of definite lesions, specific or nonspecific, or it may manifest itself as "idiopathic" pruritus. It is not unusual for people with such disorders as diabetes mellitus, chronic nephritis, visceral tuberculosis or an internal malignancy to consult a dermatologist who may be able to make a diagnosis of a systemic disorder from the appearance of the skin. The statement of Silverman and Bernstein⁽¹⁾ that an extraordinary amount of clinical information is available to the cardiologist from an ordinary examination of the skin may be applied to all other specialties.

Systemic diseases may be indirectly responsible for a variety of skin eruptions that result from medications. At times it is most difficult to differentiate a drug eruption from a systemic disease. Bromoderma and blastomycosis may so closely resemble one another both clinically and microscopically that only the isolation of the causative organism of blastomycosis may establish the diagnosis.

The subject under discussion is a tremendous one, and, therefore, I shall limit myself to a few conditions in most of the specialties. In that way I hope that the topic will be of interest not only to the specialists concerned but also to the physicians engaged in the general practice of medicine.

ANESTHESIOLOGY

The anesthetist may be asked to do a nerve block in an attempt to alleviate localized pain of undetermined origin. A slight erythema may be the only clue to the cause of pain that may be due to herpes zoster. The typical skin lesions of herpes zoster constitute the extreme of a syndrome which may be present in varying degree.⁽²⁾ It is possible for neuralgia alone to be present. If the condition is more pronounced, erythema may occur, and more intense inflammation results in vesicles that may become necrotic.

Hypofunction of the thyroid gland is frequently associated with abnormalities of the skin. Dryness, paleness and yellow color of the skin and possibly loss of hair should make one suspect hypothyroidism. In women baldness of the frontal area is sometimes striking⁽³⁾.

Familiarity with the cutaneous lesions and scars of late syphilis is of great value to the diagnostician in the case of a patient whose general medical condition does not suggest syphilis and where the serological test for syphilis is negative⁽⁴⁾.

The occurrence of a generalized herpes zoster should make one suspect the presence of a leukemia. Rodman and Rake⁽⁵⁾ reported that Stokes suggested that herpes zoster represents partial immunity to a virus with neurotropic properties and that dissemination occurs when the partial immunity is disturbed by a factor such as leukemia.

Diabetes mellitus is frequently associated with a variety of skin lesions, some of which are almost specific. Necrobiosis lipoidica diabetorum which usually consists of sharply demarcated asymptomatic reddish-yellow plaques may antedate diabetes by many years.

An eruptive xanthomatosis, xanthoma diabetorum, that results from hyperlipemia which may be associated with uncontrolled diabetes mellitus, consists of small reddish-yellow papules with a predilection for the buttocks, elbows and knees. The papules develop suddenly and disappear promptly with proper treatment directed against the hyperlipemia. Yeast infections which include paronychia, angular stomatitis, intertrigo and vaginitis should always make one consider the presence of diabetes mellitus. Chronic and recurring furuncles and carbuncles as well as persistent itching of the skin, especially about the genitalia, should also make one consider the possibility of diabetes mellitus.

Some authors separate the localized form from the systemic types of lupus erythematosus⁽⁶⁾ while others^(7,8) regard chronic lupus erythematosus as a local manifestation of a generalized disorder. Systemic lupus erythematosus which was first thought of as a skin disorder, then a vascular disease, then a collagen disease may now in addition be considered a disease of protein metabolism.⁽⁹⁾ Four abnormal activities may occur, all in the gammaglobulin fraction. One is responsible for the

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false positive serological test for syphilis, one for positive direct antiglobulin tests (Coomb's), one acts as an anticoagulant and the fourth is the L. E. cell factor. The laboratory evidences of "dysgammaglobulinemia" may precede by months or even years any clinical evidences of lupus erythematosus.⁽¹⁰⁾ In spite of reports to the contrary Weiss and Swift⁽¹¹⁾ concluded that the fully developed L. E. cell is found in lupus erythematosus alone. They observed the occurrence of a syndrome resembling lupus erythematosus after the use of hydralazine for hypertension. The characteristic textbook pattern of butterfly efflorescence is probably found in less than one-third of the patients.

NEUROLOGICAL SURGERY

A diagnosis of an intracranial neurofibroma may be suspected by the presence of pigmented patches on the skin, the so-called *forme fruste* of Recklinghausen's disease. The patches may vary greatly in size and number and the larger ones are often arranged in the direction of the cutaneous lines of cleavage.⁽¹²⁾

Lesions of Boeck's sarcoid have been found in every part of the nervous system and vary from chronic meningeal lesions to actual tumor-like masses.⁽¹³⁾ Since sarcoid frequently occurs in the skin, a complete examination of the skin may offer a clue to the diagnosis.

OBSTETRICS AND GYNECOLOGY

Pregnancy is frequently complicated by various cutaneous disturbances. Chronic dermatoses may be improved or aggravated.⁽¹⁴⁾

Herpes gestationis is probably a variant of dermatitis herpetiformis⁽¹⁵⁾ occurring during pregnancy and may disappear spontaneously following delivery. Attacks are usually ushered in with generalized pruritus followed by vesicles and bullae. Severe cases may result in miscarriages or still births.

Chloasma, also known as liver spots, is quite common. The usual eruption occurs on the face as symmetrical pigmented patches which vary from light yellow to dark brown. Abdominal and utero-ovarian disturbances produce the pigmentation through stimulation of chromaffin system⁽¹⁶⁾ although in many cases the cause cannot be determined.

OPHTHALMOLOGY

There are many skin manifestations of diseases associated with eye symptoms. The patient may be unaware of associated eye lesions as in pseudoxanthoma elasticum where angioid streaks of the retina may occur in association with yellowish-brown plaques usually located on the sides of the neck and in the axillae.

Stevens-Johnson disease, a severe form of erythema multiforme, may include serious ocular symptoms. There is usually an accompanying generalized vesiculo-bullous and, at times, purpuric eruption.

Less common is Behcet's triple symptom complex, a disease of relatively young people, which consists of superficial ulcerations in the mouth and on the genitals

and the development of uveitis or iridocyclitis. Incomplete syndromes may exist.⁽¹⁷⁾ There may be an associated erythema nodosum or an erythema multiforme-like eruption.⁽¹⁸⁾

ORTHOPEDIC SURGERY

Bone lesions may be associated with skin eruptions of various types. Some conditions such as Maffucci's syndrome, characterized by dyschondroplasia and superficial hemangiomas, and Albright's syndrome, characterized by pigmented patches, disseminated osteitis fibrosa and sexual precocity, are relatively rare. Others such as sarcoidosis are fairly common. Sarcoid frequently invades the osseous system, and pathological fractures occasionally occur. The small bones are commonly affected, and a fusiform swelling of the fingers and toes may occur.

Webber-Christian disease until recently has been considered to be a relapsing, febrile, nodular, non-suppurative inflammation of the subcutaneous tissue. Systemic involvement with changes in perivisceral and visceral fat⁽¹⁹⁾ and with destructive bone lesions⁽²⁰⁾ have been reported.

OTOLARYNGOLOGY

Dysphagia and glossitis may occur as part of the Plummer-Vinson syndrome which includes angular stomatitis, hypochromic anemia, achlorhydria and spoon nails. There may be atrophic changes in the mucosa of the mouth, pharynx and esophagus. Malignant degeneration may occur in the atrophic mucosa.

Hoarseness in infants may be the first symptom of lipid proteinosis, a familial disease, that later includes dental anomalies and various nodular hyperkeratotic lesions on the face, extremities and mucous membranes. Infiltrations in the mucous membrane can result in obstruction that may require laryngotomy to prevent asphyxia.⁽²¹⁾

PATHOLOGY

The medical examiner as well as the criminal investigator should find skin markings indicative of occupation or disease useful not only in identifying a dead body but also in identifying the living as in the cases of amnesia or of unsatisfactory finger prints.⁽²²⁾

PEDIATRICS

Infantile acne is most likely due to some hormonal factor,⁽²³⁾ and it, apparently, may result from the application of oils to the heads of infants.⁽²⁴⁾ Cases of pre-adolescent acne have been reported in which adrenal tumors or hypernephroma have been found.⁽²⁵⁾

Urticaria pigmentosa, a generalized pigmented eruption originally described as a purely cutaneous condition, has been recognized recently as being systemic. Concomitant bone changes may occur,⁽²⁶⁾ and mast cell proliferation may result in an enlarged liver and spleen and enlarged lymph nodes and kidneys.

A velvety red appearance of gums which bleed easily should make one suspect the presence of infectious mon-

onucleosis. Generalized eruptions may occur, but they are not characteristic.

PSYCHIATRY AND NEUROLOGY
A form of alopecia that requires psychotherapy is trichotillomania, a neurotic compulsion to pull out one's own hair. It is a true mania since it is an impulse that defies self control.⁽²⁷⁾ The clinical diagnosis is usually made without difficulty for the picture is usually artificial in appearance, and there is no evidence of the "exclamation point" hairs of alopecia areata or of other diseased or abnormal hairs.

Adenoma sebaceum, a nevoid condition affecting the central portion of the face, begins in early childhood. Epiloia which includes mental deficiency, epilepsy and adenoma sebaceum may be associated with tuberous sclerosis. From the neurologic point of view the most prominent feature of the syndrome is epilepsy. The convulsive state may appear in any one of the usual epileptic forms.⁽²⁸⁾ The onset of symptoms usually occurs during the first years of life, but they may not appear until adolescence.

SURGERY
Acute abdominal pain suggestive of acute appendicitis may occur in porphyria, a familial metabolic fault in which abnormal kinds and amounts of porphyrins are excreted in the urine and feces.⁽²⁹⁾ The presence of signs of abnormal sensitivity to sunlight, increased pigmentation and perhaps hypertrichosis should warn the surgeon to check for abnormal porphyrins.

The skin manifestations associated with internal cancer are chiefly pruritus, toxic bullous eruptions, metastatic cutaneous lesions, urticaria and acanthosis nigricans.⁽³⁰⁾ The adult type of acanthosis nigricans is characterized by hyperpigmentation, papular hypertrophy and hyperkeratosis. The eruption is usually symmetrical involving the axillae, neck and groins. If the diagnosis is established, it may be considered an indication for laparotomy.

A syndrome of pigmentation of the skin associated with intestinal polyposis has been described by Jeghers⁽³¹⁾ and others. The pigment is melanin and is distributed about the mouth, lips and hands as small solid dots or finely stippled aggregations. The condition, known as the Peutz-Jeghers syndrome⁽³²⁾ is frequently familial. An unexplained anemia associated with pigmented areas about the mouth and hands and with gastrointestinal disturbances is suggestive of the syndrome.

UROLOGY
Reiter's syndrome, a triad of urethritis, arthritis and conjunctivitis of unknown etiology, may begin as a non-specific urethritis. Associated dermatologic lesions that may occur are balanitis and a Keratosis blennorrhagica-like eruption. It may be extremely difficult to differentiate clinically the hyperkeratotic skin lesions from the gonococcal form of keratosis blennorrhagica,

and bacteriologic and immunologic studies are needed. Reiter's syndrome does not lead to permanent changes in the joints as may occur in gonorrhea.⁽³³⁾

SUMMARY
The modern dermatologist is very much interested in the relationship between dermatology and the other branches of medicine. The relationship was discussed, and examples were given of skin lesions of particular interest to the various specialists as well as to the physicians engaged in the general practice of medicine.

Not infrequently the first manifestation of an internal disorder appears on the skin. A complete dermatological examination may result in the recognition of the presence of a systemic disease and may aid in the establishment of a definite diagnosis.

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ACHROMATIZING



A Case of Erythema Multiforme with Presence of Neutralizing Antibodies of Newcastle Disease Virus in Serum

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It is generally admitted that Erythema Multiforme is just a syndrome. It is called "idiopathic" when no known cause can be detected, and "symptomatic" when related either to a drug allergy, or to an infection. The following case of Erythema Multiforme was symptomatic of an infection; R.P., male 31 years old, has always been in good health with the exception of mumps and other usual diseases in childhood.

Since 1946 he has been a meat cutter in a cannery where his work consists of eviscerating chickens. On January 6, 1956, two days after shovelling snow, his hands had turned bright-red, swollen and stiff. Swelling and stiffness were so severe that the patient was unable to work.

Except for a minute erosion around the nail of a left finger, there was no obvious bone or knife injury on his hands. In the left epitrochlear area, there was a hard and painless lymph node, apparently older than the present disease. Oral cavity and genital area were normal. There was no headache, nor arthralgia, nor general malaise. The oral temperature was 99.3 on January 11 and 99 on January 13.

Three injections of 600,000 units penicillin were given on January 9, 11 and 13, followed by achromycin, 250 milligrams four times a day for eight days. In spite of this treatment the skin trouble was progressively worse. Successively, in a few days, elbows, outer ears and back of neck were covered with red, infiltrated, well circumscribed patches. Finally on January 20, both feet were affected in the same way. The swelling was such that the patient had to wear slippers and had some difficulty in walking.

At that time a steroid treatment was started (Meti-corten, 20 milligrams daily), associated with five x-ray treatments, each given a week apart at the dose of 607 units each. Hands, then feet started to improve in the early days of February. Redness and swelling slowly disappeared, while palmo-plantar areas were shedding. In the early days of March, every previously affected area had recovered with the exception of nails of hand and feet. Until the middle of April, they have been

slightly cyanotic and loose, with some degree of numbness in the tip of the fingers.

Laboratory Work:

1. Blood

- (a) *Neutralization tests for Newcastle* were performed at the Department of Health, Education and Welfare, Public Health Service, Communicable Disease Center Laboratory Branch Virus and Rickettsia Section. (Montgomery, Alabama). The Neutralization Index was 9 on January 30, 1956, 70 on March 5, and 100 on June 11, 1956.
- (b) *Agglutination Tests* for Salmonella Pullorum were performed at the College of Agriculture, Orono, Maine, and were found negative on May 14, 1956.
- (c) *Complete blood count* January 20, 1956 was as follows: Hb. 97%, Red Blood Cells 5,300,000, White Blood Cells 11,250, Segmented 67%, Lymphocytes 29%, Monocytes 4%, Mean Corpuscular Hb. 30.
- (d) *Widal Tests for Brucella Abortus*, and for typhoid O, Typhoid H, Paratyph A and Paratyph B were negative at any dilution on January 20, 1956.
- (e) *V.D.R.L. slide test* negative on January 20, 1956.

2. *Repeated Urinalysis* for albumin and sugar were negative in January and February, 1956.

3. *X-ray Chest Survey* was normal on May 29, 1956.

COMMENT

This case of Erythema Multiforme was unusual because of its long duration — nearly three months — and because of its end with neuro-circulatory troubles of the extremities of fingers and toes. These features were suggestive of an Erythema Multiforme, "symptomatic" either of a drug allergy or of an infection. Drug allergy and foci of infection were in turn considered; their possibility was finally rejected after a thorough investigation.

Because this patient was working as a meat cutter in a chicken cannery, poultry diseases were considered. Twenty-six of these diseases are today considered communicable to people working with poultry, and some of them to consumers.*

The five of them most often seen in humans are Psittacosis, Brucellosis, Pullorum Disease, Erysipeloid and Newcastle Disease.

In the absence of any respiratory trouble in the present case, *Psittacosis* (also called Parrot Fever) did not hold our attention and a complement fixation test for this infection was not performed.

Outbreaks of *Brucellosis* have been described in domestic fowls which may transmit the disease to humans. Our patient has had two blood agglutination tests for this infection, one two weeks after the onset of his disease, the other four months later. They were found negative in all dilutions.

Pullorum Disease, also called Bacillary White Diarrhea is a Salmonellosis. It is one of the most widespread and serious infections in domestic fowls and their eggs, and is communicable to humans.

In our case, an agglutination test performed at the school of agriculture at Orono three months after the onset of the disease was found negative for *Salmonella Pullorum*, the organism of this disease. This negative result rules out this infection in our patient. However, according to Hitchner,⁽¹⁰⁾ a negative result may be found even in infected humans, as this disease is generally too slight in man to raise a significant titer of antibodies.

Swine Erysipeloid can infect fowls, too. It can also contaminate chicken farmers and meat cutters handling chickens. It usually starts on a hand around an injury caused by a bone or a knife; but also may develop with no visible injury. This was our first diagnosis in this case, when the rash was located on hands only. Later on we realized our error when the disease continued to spread in spite of antibiotic treatments. As it can be inferred from a paper by Gregory⁽²⁾, a true case of Erysipeloid is rapidly under control after a penicillin treatment.

Newcastle Disease, also called Avian Pneumo-Encephalitis, is a virus infection of domestic fowl. Described in 1927 in Newcastle-On-Tyne in England, it has spread since then all over the world to the point that in 1951, the mortality from this disease averaged 30% in U. S. poultry.⁽³⁾

*The diseases of domestic fowl communicable to humans have been listed by Ingalls⁽¹⁾ as follows:
Bacterial: *Erysipelas* (*Erysipelothrix* infection), *Listeriosis*, *Tuberculosis*, *Tularemia*, *Staphylococcosis*, *Streptococcosis*, *Salmonellosis*, *Diphtheria*, *Brucellosis*, *Paracolon* infection, and *Pseudotuberculosis*.
Fungal: *Aspergillosis*, *Favus Thrush*.
Viral and Viral Like: *Eastern*, *Western*, *St. Louis* and *Japanese*. *Encephalomyelitis*, *Newcastle disease*, *Psittacosis* and *Rabies*.
Toxic: *Tetanus* and *Botulism*.
Parasitic: *Echinostomiasis*, *Schistosomiasis*, *Dermanyssus gallinac* and *Toxoplasmosis*.

It was first believed that this disease affected birds only. Later on it developed in some mammals (hamsters, mice, monkeys, bats, cats), and finally in humans. The first cases in man were described among laboratory workers after accidental inoculation. They were first confined to an acute granular conjunctivitis with or without preauricular lymphadenitis, and accompanied in a very few cases with malaise, headache and chills. These last symptoms indicated that Newcastle Disease was more than a local infection. It could be a systemic one.⁽⁴⁾ In fact, later on, this infection was suspected in cases of influenza-like disorders with or without mild encephalitis among people, mostly children, who had been exposed to fowl.⁽⁵⁾

This infection became a certitude when finally the virus was isolated from a patient with granular conjunctivitis, for the first time, by Burnet in Australia in 1943,⁽⁶⁾ then in this country by Ingalls in 1949.⁽⁷⁾

It was probably found in a case of virus pneumonia in 1949.⁽⁸⁾ More remarkable was the discovery of the virus in 1952-1953 by Moolten et al in three cases of acute hemolytic anemia with acute hemagglutination vascular phenomena.⁽⁹⁾ It has probably been isolated too in another case of hemolytic anemia by Lemaire.⁽¹⁰⁾ This author mentions the work of Eyquem and Dausset who in 129 cases of hemolytic anemia found three of them serologically positive for Newcastle Disease.

The incubation period of Newcastle Disease — which in chickens is from four to eleven days⁽³⁾ — is more variable in humans. In cases of conjunctivitis, it varies from a few hours to two days after exposure to the virus.^(4b) In cases of systemic infections, the incubation period is more difficult to estimate. According to Moolten, the viremia may exist, but silent, for some time; later on it may turn clinically acute by reactivation under the effect of any stimulating factor, exposure to cold for instance.⁽⁹⁾ We have here a splendid example of biotropism. In our case, it is interesting to note that the patient had shovelled snow two days before the clinical onset of his Erythema Multiforme. Although his story was suggestive of an allergy to cold, this easy explanation would have been an error in this case which in fact was a viral infection.

The duration of this disease is variable. It may last from five days to two weeks in cases of conjunctivitis. This duration may be much more longer in cases of systemic infection.

Although there is no specific treatment for this infection, all patients up to now have recovered. Symptomatic treatment is helpful such as antibiotics when indicated for a superimposed infection, and steroids may be useful in certain instances.

Immunity after infection develops from four to eight weeks after its clinical onset and is more apparent at the third month of the disease. This fact is of importance; it should be kept in mind in the interpretation of serological tests based on the research of antibodies, as is explained below.

This infection does not confer a persistent immunity. Recurrences of Newcastle virus conjunctivitis in humans have been seen in one case four and one-half years,⁽¹¹⁾ and in another ten months after the first infection.⁽¹²⁾

The diagnosis of Newcastle Disease is not an easy one. This infection is, of course, easily suspected in laboratory workers, after they have been splashed accidentally with infected eggs. It has to be suspected among these patients, canning workers or chicken farmers, when they develop conjunctivitis or influenza-like disorders with or without central nervous system manifestations, or hemolytic anemia. This is relatively easy. But there are other sources of infection more difficult to detect, as the virus may be found not only in fowl and embryonated eggs, but also in unfertile eggs.⁽¹³⁾

A positive diagnosis of Newcastle Disease is based on laboratory tests.

- (A) The complement-fixation test is rarely used.
- (B) The hemagglutination-inhibition test is relatively simple and rapid. Its principle has been exposed by Hirst, its discoverer, in his princeps paper.⁽¹¹⁾
- (C) The neutralization test. Its technic has been exposed in detail by B. Howitt. It is in fact a double control. Mixtures of the virus and of the patient's serum are prepared at different dilutions. The richer the serum is in specific antibodies, the more virus it neutralizes, and the more of the mixture can be inoculated to chick embryos without damage.⁽⁵⁾

The purpose of these serological tests is to detect the presence of specific antibodies in the serum and to evaluate their titer. Their result is compatible with a recent Newcastle Disease Virus, when, practically negative at the onset of the disease, they turn obviously positive six to eight weeks later. Unfortunately, the specificity of these serological tests is not absolute. They have been found positive too in patients convalescing from mumps, at least in twelve out of fifteen cases. Consequently, the serological diagnosis of Newcastle Disease Virus in man must be made with caution.⁽¹⁵⁾

- (D) In fact the only test of certitude of Newcastle Disease is the *isolation of the virus* at the onset of the disease and its identification by electron micrography. This is the test of choice, when possible.⁽³⁾

In our case the serum was examined in the second, then in the eighth week of the disease by the neutralization method, performed in the Communicable Disease Center of the U. S. Public Health Service (Montgomery, Alabama). The neutralization index was nine in the first specimen and seventy in the second. This rise in antibodies was reported to be "compatible with a recent infection with Newcastle Disease Virus."

During his long disease our patient was closely followed, but never showed any signs suggestive of mumps. He asserted that he had mumps in his childhood at age eleven. If this assertion is correct, the existence of

Newcastle Disease is quasi-certain in this unusual Erythema Multiforme.

The patient has recovered slowly. Three months after the onset of the disease, he still complained of peeling and numbness in fingers and toes. His nails were loose and he had an unpleasant feeling of foreign bodies under the nails.

SUMMARY

Among the twenty-six diseases of fowl communicable to humans, Newcastle Disease Virus has elicited a new interest in recent years, although it still is a rare disease. It should be suspected in cases of conjunctivitis, in influenza-like disorders with or without encephalitis, in cases of hemolytic anemia, and probably in several other manifestations, especially when they develop among laboratory workers handling this virus, among chicken farmers and among meat cutters working on chicken in canneries. Infection by eating inadequately cooked eggs may be possible, but still has to be proved.

An unusual case of Erythema Multiforme is reported. In all probability it was related to the Newcastle Disease Virus. *To the best of my knowledge this is the first case of this nature in medical literature.*

I wish to acknowledge the cooperation of:

- (a) A. Deering, Dean of College of Agriculture, and E. R. Hitchner, Head of Department of Bacteriology of the University of Maine
- (b) Philip O. Gregory, M.D., Boothbay Harbor, Maine
- (c) S. M. Barker of Amalgamated Meat Cutters and Butcher Workmen of North America.

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Continued on page 267

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Across The Desk

The Congress of the United States and Your Wishes

This year the members of the MMA voted on H.R. 7225 (Disability Benefits under Social Security at age 50). The vote was 83 for and 355 against the passage of this bill.

This was not an isolated action. At that time the measure was being discussed before the Senate Finance Committee and your wishes were passed along to each of your Senators. Medical testimony before the Senate Finance Committee did much to influence that group's decision to delete the Disability Benefits' clause from H.R. 7225.

Had this measure been brought before the Senate in that form at that time, there would have been no question of disability benefits. But powerful forces wanted the disability clause reinstated, and this is an election year. The measure was maneuvered so that it would be voted upon in the closing days of the legislative session, and a new amendment reinstating the Disability Benefits' clause, and setting up a new tax to pay for it (estimates of the cost of this measure are admittedly not determinable) was offered by Senator George.

Letters, telegrams, telephone calls and another trip to Washington were all used to make your wishes known to your Senators. They answered our communications and treated your personal representative with kindness and with understanding.

Below, reproduced from the Congressional Record for July 17, are the two Senate roll call votes on the disability amendment. On the left is the first vote, on the right the second or "reconsideration" roll call. After the first roll call, a member who voted with the prevailing side or who was not present, may move for a "reconsideration." It is normal procedure for the winning side to ask a reconsideration immediately, while it still has a majority present. Majority Leader Lyndon Johnson did this after announcement of the 47-45 vote in favor of the disability amendment, and his motion carried by voice vote. In the ensuing "reconsideration" roll call, Senators Eastland, Frear, Holland, Smathers and Stennis switched from "no" to "yes" and Senators Payne, Purtell and Young from "yes" to "no."

As passed by the Senate, H.R. 7225 also provides increased U. S. contribution to public assistance, optional retirement for women at age 62, and right of a person to refuse surgical or medical treatment and still continue to draw his pension. In the three hours of Senate debate allowed on this amendment, it was clearly stated that there is much justification for the payment of benefits to those disabled at an earlier age than 50. It was also stated that it would be very easy for some future congress to strike out "permanent" and make it "temporary" and to strike out "total" and make it "partial"

as far as the disability was concerned, and then we will truly have compulsory health insurance on a government-sponsored basis.

H.R. 483 — the bill designed to permit osteopaths to be commissioned in the armed services on equal status with doctors of medicine — passed the Senate without objection — was referred back to the House of Representatives because of the two Senate amendments. One, introduced by Senator Margaret Chase Smith of Maine, which stated in effect that only those osteopaths with equal educational backgrounds with doctors of medicine could be commissioned and two,

only those osteopaths which were acceptable to the Surgeons General could be commissioned — introduced by Senator Russell.

No formal conference was held but Senator Russell agreed with members of the House of Representatives to allow his amendment to be changed so that commissions would be given by the Defense Department with the advice of the Surgeons General. This, it was stated, helps preserve civilian control over the military. No members of the House of Representatives from Maine opposed this measure, and like H.R. 7225, it has already been signed into law.

CONGRESSIONAL RECORD — SENATE

July 17, 1956

(H.R. 7225)

11873

FIRST ROLL CALL

YEAS—47

Anderson	Jackson	Neely
Bible	Johnson, Tex.	Neuberger
Chavez	Johnston, S.C.	O'Mahoney
Clements	Kefauver	Pastore
Douglas	Kennedy	Payne
Ellender	Kerr	Purtell
Ervin	Laird	Russell
Fulbright	Langer	Scott
George	Lehman	Sparkman
Gore	Long	Symington
Green	Magnuson	Wiley
Hayden	Malone	Wofford
Hennings	Mansfield	Young
Hill	McClellan	
Humphrey,	McNamara	
Minn.	Monroney	
Humphreys,	Morse	
Ky.	Murray	

NAYS—45

Aiken	Curtis	Martin, Pa.
Allott	Dirksen	McCarthy
Barrett	Duff	Millikin
Beall	Dworshak	Mundt
Bennett	Eastland	Robertson
Bricker	Flanders	Saltonstall
Bridges	Frear	Schoeppel
Bush	Goldwater	Smathers
Butler	Hickenlooper	Smith, Maine
Byrd	Holland	Smith, N.J.
Capehart	Hruska	Stennis
Carlson	Ives	Thye
Case, N.J.	Jenner	Watkins
Case, S. Dak.	Knowland	Welker
Cotton	Martin, Iowa	Williams

NOT VOTING—4

Bender	Kuchel	Potter
Daniel		

RECONSIDERATION ROLL CALL

YEAS—49

Anderson	Humphrey,	McClellan
Bible	Minn.	McNamara
Chavez	Humphreys,	Monroney
Clements	Ky.	Morse
Douglas	Jackson	Murray
Eastland	Johnson, Tex.	Neely
Ellender	Johnston, S.C.	Neuberger
Ervin	Kefauver	O'Mahoney
Frear	Kennedy	Pastore
Fulbright	Kerr	Russell
George	Laird	Scott
Gore	Langer	Smathers
Green	Lehman	Sparkman
Hayden	Long	Stennis
Hennings	Magnuson	Symington
Hill	Malone	Wiley
Holland	Mansfield	Wofford

NAYS—43

Aiken	Curtis	Mundt
Allott	Dirksen	Payne
Barrett	Duff	Purtell
Beall	Dworkshak	Robertson
Bennett	Flanders	Saltonstall
Bricker	Goldwater	Schoeppel
Bridges	Hickenlooper	Smith, Maine
Bush	Hruska	Smith, N.J.
Butler	Ives	Thye
Byrd	Jenner	Watkins
Capehart	Knowland	Welker
Carlson	Martin, Iowa	Williams
Case, N.J.	Martin, Pa.	Young
Case, S. Dak.	McCarthy	
Cotton	Milliken	

NOT VOTING—4

Bender	Kuchel	Potter
Daniel		

Maine MD on the National Scene

In Chicago on July 28 and 29, at a meeting with a task force from the Department of Defense, representatives of Blue Cross-Blue Shield and private insurance companies sat down with representatives from the AMA and State Medical Societies, to set up methods of han-

dling the great task of caring for the dependents of members of the armed forces.

H. Draper Warren, M.D. of Caribou represented the State of Maine in these discussions and is preparing a full report for a later issue of the Journal.

Proposed Rules on Care of Dependents

It has been proposed that each state administer the program as it deems best and that such administration be placed in the hands of a private insurance company or be handled through Associated Hospital Service, Blue Cross and Blue Shield. Each state is to submit a fee schedule and payments will be made on the basis of these schedules. The plan in general is to follow local average fees.

No restrictions are expected on hospitals except that they must be operated in accordance with local laws, have a medical staff and twenty-four hour nursing by registered nurses.

Professional services are to be performed by physicians and surgeons legally qualified to prescribe and administer all drugs and to perform all surgical procedures.

Out-patient care, home and office treatments by civilian physicians, will probably not be allowed routinely under the program.

Consultations will be included but the patient must bear the expense of the first \$100.

It should be remembered that these are merely proposals and practically all will be altered in some way before the final machinery is placed in operation.

Study of 1956 State Medical Association Dues

The Michigan State Medical Society recently surveyed each of the 49 constituent state medical associations (District of Columbia and the 48 states) on current state dues.

The study showed that the average American physician pays between \$50 and \$60 per year state association dues. His county society dues range from \$20 to

\$70 per year depending upon whether the county or component society maintains an executive office.

Detailed information on the study may be obtained from Rowland Kennedy, executive secretary of the Mississippi State Medical Association, or William J. Burns, executive director of the Michigan State Medical Association.

Results of Physical Examinations of Doctors

During the annual A.M.A. meeting in Chicago there was an exhibit booth, equipped with x-ray and electrocardiograph, where physicians could be examined. The booth, entitled "A Yearly Physical Examination for Every M.D.," was a joint enterprise of the A.M.A. Section on General Practice, the American Academy of General Practice, and the National Tuberculosis Association.

Within a few moments the ECG tracing and the x-ray diagnosis were made available to the physician. Dr. I. E. Buff, Charleston, W. Va., cardiologist who was on duty at the booth, and read many of the tracings, is convinced after his experience that many doctors are too neglectful of their health.

A study of the results revealed one surprising fact: 58 doctors or 6 per cent of the total who underwent x-ray examination had suspected tuberculosis. Following is a breakdown of the complete results:

965 chest x-rays		
Negative findings	861	83.5%
Suspected tuberculosis	58	6.0%
Cardiac findings	42	4.3%
Other pathology	59	6.1%
1083 electrocardiograms		
Negative findings	821	84.9%
Abnormal ECG	97	10.0%
Borderline ECG	49	5.1%
Survey sheets not returned	116	

Principles of Medical Ethics Undergoing Revision

The Principles of Medical Ethics of the American Medical Association, which have served as a guide for physicians for more than a century, are undergoing radical surgery.

The A.M.A. House of Delegates, meeting in Chicago last month, approved a reference committee report on the revision. However, final action was deferred until the clinical session next November in Seattle, "to allow ample opportunity for thorough study" by A.M.A. members.

House action in Chicago followed a report by Dr. Louis A. Buie, Rochester, Minn., chairman of the council on constitution and by-laws, which said "there exists a broad twilight zone in which the concepts of ethics and etiquette are entangled and in which there is much overlapping and consequent confusion."

The report said the present principles are encumbered by confusing "verbosity and qualifying constructions." It was felt that the principles should be broad, providing a framework in which interpretations could be made. They should deal with basic principles which can serve as "a ready reference for the busy practitioner."

The report said: "It is important to understand that medical ethics are not distinct or separate from ethics generally, but simply emphasize those general principles which are of particular concern to the medical profession. The ethical physician will observe all ethical principles because he realizes that they cannot be enforced by penal reprisals, but must be binding on conscience."

The Principles as proposed consist of a brief preamble and 10 sections which express the fundamental ethical ideas in the present Principles. Every basic principle has been preserved, but much of the wordiness and ambiguity which made ready explanation difficult have been eliminated. The change would cut the Principles from about 2500 words to a total of about 400.

The 10 proposed sections follow:

1. The prime objective of the medical profession is to render service to humanity with full respect for both the dignity of man and the rights of patients. Physicians must merit the confidence of those entrusted to their care, rendering to each a full measure of service and devotion.

2. Physicians should strive to improve medical knowledge and skill, and should make available the benefits of their professional attainments.

3. A physician should not base his practice on an exclusive dogma or a sectarian system, nor should he associate voluntarily with those who indulge in such practices.

4. The medical profession must be safeguarded against members deficient in moral character and professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

5. Except in emergencies, a physician may choose whom he will serve. Having undertaken the care of a patient, the physician may not neglect him. Unless he has been discharged, he may discontinue his services only after having given adequate notice. He should not solicit patients.

6. A physician should not dispose of his services under terms or conditions which will interfere with or impair the free and complete exercise of his independent medical judgment and skill or cause deterioration of the quality of medical care.

7. In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him to his patient.

8. A physician should seek consultation in doubtful or difficult cases, upon request or when it appears that the quality of medical service may be enhanced thereby.

9. Confidences entrusted to physicians or deficiencies observed in the disposition or character of patients, during the course of medical attendance, should not be revealed except as required by law or unless it becomes necessary in order to protect the health and welfare of the individual or the community.

10. The responsibilities of the physician extend not only to the individual but also to society and demand his cooperation and participation in activities which have as their objective the improvement of the health and welfare of the individual and the community.

Proposed Rules Give Tax Relief on "Refreshers"

In recent weeks, bulletins published by some medical organizations have reported that regulations have been adopted by Internal Revenue Service which permit deduction (as a business expense) of sums spent in

taking postgraduate "refresher" courses. That is not quite the case. IRS has made public its *proposed* regulations and announced that written comments, suggestions or divergent opinions pertaining to them will be

received by Commissioner of Internal Revenue up to Aug. 9. Promulgation of regulations will be made on a subsequent date.

Under proposed rules, expenses of "refresher" courses — at home or away — are deductible only if their educational contribution enables the participant "to maintain the skills directly and immediately required by the taxpayer in his trade or business." If they are a prerequisite to professional *advancement* — specialty accreditation, for example — then the cost is *not* deductible from income.

In the case of an employed physician (or other tax-

payer), if terms of his employment require a certain amount of off-the-job education in order to keep his position secure, expenses therefor are deductible. But not if such training, "refresher" course or otherwise, is preliminary to a change of position or advancement in "earning capacity, salary, status or position."

— This prospective liberalization of income tax regulations, such as it is, comes in wake of Federal court decisions which went against IRS policy of disallowing deductibility for "refresher" or any other type of educational expense.

Elected at 1956 Annual Session



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Wilson H. McWethy, M.D.
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Councilor, Fourth District

Robert L. Allen, M.D.
Rockland
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Maine Medical Association

STANDING COMMITTEES — 1956-1957

Standing Committees for 1956-1957 as proposed by the Nominating Committee and approved by the Second Meeting of the House of Delegates of the Maine Medical Association at Rockland, Maine, June 25, 1956.

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2nd District, ROMEO A. BELIVEAU, M.D., Lewiston
3rd District, ROBERT L. ALLEN, M.D., Rockland
4th District, ALLAN J. STINCHFIELD, M.D., Hallowell
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(Jan. 1, 1957 to Jan. 1, 1959)
 Philip P. Thompson, Jr., M.D., 704 Congress St., Portland



DEAN H. FISHER, M.D.
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State of Maine

Department of Health and Welfare

Potential Value of Maine Nursing Homes

The potential value of Maine's 209 nursing homes as a medical resource and the importance of their relationship to general hospitals is becoming of increasing interest to Maine physicians who perceive many advantages for patients in such a relationship. Many MMA members have indicated their views that when a close working relationship between the general hospital and a good nursing home exists in any given area, a nearly ideal situation results for both physician and patient.

Obviously, the principal advantage is in the availability of each institution for the ready exchange of patients from one to the other under medical supervision. Nursing homes can serve an invaluable purpose in making hospital beds available for the acutely ill and for emergency cases; in addition there can be other resultant advantages for both types of institutions when a cooperative working relationship is developed and maintained.

Indicative of the large volume of service to patients being provided by nursing homes throughout the state is the fact that approximately 303,652 days care per year were provided by 209 homes, according to the most recent available figures. All nursing, convalescent and rest homes are required by law to be licensed by the Department of Health and Welfare.

(The March issue of the Maine Medical Journal contained an article prepared by Woodrow E. Page, Hospital Construction Engineer, which outlined information regarding the inclusion of nursing homes under Part G. of the Federal Hospital and Medical Facilities Survey and Construction Act, the so-called Hill-Burton Act.)

With the conviction that the logical first step in bringing about the best possible working relationship between general hospitals and nursing homes would be to obtain detailed, complete and up to date information regarding existing homes, their facilities, patient population; type of service available, sources of income for payment of care and availability of physician service and other details; the Department, with the cooperation of private agencies is starting a State-wide study this month.

One of the objectives of this study is to provide necessary information which could lead to the extension of the Hospital Pool Plan to nursing homes. The 97th Maine Legislature authorized the establishment of the Hospital Pool Plan which became effective July 1, 1955, providing for direct payment to Maine hospitals for the care of those patients who are recipients of Public Assistance. (This includes four categories, Old Age Assistance, Aid to Dependent Children, Aid to the Blind and the relatively new program of Aid to the Disabled, described in recent issues of the Journal.)

The information secured from the study will be compiled in statistical form and be available for the incoming Legislature if that body decides to consider the extension of the Pool Plan to nursing homes. All material collected is, of course, obviously of confidential nature and there will be no identification of individual patients or homes in the statistical compilation.

Physicians can be of immeasurable aid in the completion of the study by their endorsement of its objectives in their frequent contacts with nursing home operators. The advantages of improved standards of care in all nursing homes; the benefits of a closer working relationship with general hospitals and the very practical and helpful aid that would result if the so-called Hospital Pool Plan should be extended to such institutions are obviously worthwhile to all concerned.

The Maine Nursing Home Association which, as the name implies, is made up of owners and operators of such homes and of which F. Mae Murray, R. N. of Camden is currently the President has endorsed the study and solicited the cooperation of all of its members in providing the information requested.

The Maine Committee on Aging of which State Senator Carleton S. Fuller is the Chairman has also sent written endorsement of the study to all nursing home operators in the state.

C. Owen Pollard, nursing home study consultant on the staff of the Department of Health and Welfare is conducting the study and is now visiting various nursing homes throughout the state to aid in the completion of

questionnaires. Sets of questionnaires have already been sent to nursing home operators and Mr. Pollard will visit as many as possible to provide assistance.

The Bingham Associates have indicated interest in study because of their concern with the definite need seen by so many physicians, i.e., improved relationships between general hospitals and nursing homes. Bingham officials report that in all probability a nursing home consultant will be assigned to a Maine area where there are at least two general hospitals and a number of nursing homes. The consultant would work with both

types of institutions to bring about the previously mentioned objectives.

This information regarding the study is being made available to Maine Medical Association members in advance of its completion so that physicians may be aware of the proposals and objectives in their frequent contacts with owners and operators of nursing homes. Their approval and cooperation will greatly expedite the completion of the study with the resultant advantages so obvious to both physician and patient.

Farm Life Presents Hazards to Health

Staying home on the farm, strange as it may seem, is not always the safest way to prevent accidental death or poisoning, according to Edson K. Labrack, Maine's Registrar of Vital Statistics who reports that 46 Maine residents met death by accidents on farms or in farm homes in 1955.

Moreover, physicians, particularly those in rural areas, have found that some of the newer potent insecticides being used on farms (and in home gardens) can present serious medical and diagnostic problems.

Farm accident fatalities last year resulted principally from falls, with accidental falls in the home causing 11 deaths, falls in farm buildings in 3 deaths and one death resulting from injuries received in a fall in a farmyard.

Fires were the second most common cause of accidental death on the farm. Among the victims were 5 children under the age of 10 years. All of these deaths occurred in the farm home. Accidents in which the farm home burned were responsible for the deaths of eight persons, accidents involving explosion of combustible liquids claimed 2 lives (1 kerosene and 1 cleaning fluid) and one person was fatally burned when bed clothing ignited.

Accidents caused by farm machinery and animals were responsible for the deaths of 7 other persons on

farms. Tractors that overturned, crushing their drivers resulted in 6 deaths and one person was fatally injured when kicked by a horse.

Other miscellaneous accidents were responsible for the remaining 14 farm deaths. These included 3 deaths attributed to falling trees, 1 died when a barn collapsed, 2 drowned in abandoned wells, 1 drowned in a farm pond, 2 were electrocuted while erecting TV antennas, 1 was accidentally killed with a firearm, 1 died as the result of a bee sting, 1 child was accidentally suffocated in her crib and 2 died as the result of old injuries of unspecified nature.

Although no deaths from improper use of insecticides are listed in the above toll, it is known that some of the new preparations being used as sprays and dusting powders constitute a serious health hazard either through inhalation, ingestion or absorption of toxic chemicals. Specifically, tetraethyl pyrophosphate and parathion formulations are considered to offer the most serious potential danger.

The suggestion that hospitals, particularly those in rural areas might equip themselves with diagnostic facilities for such cases of poisoning and that physicians be aware of the chemicals being used in their prospective areas and of the appropriate diagnostic and therapeutic means that may be required seems timely.

Dr. Dunham Joins State Health Staff

The most recent addition to the professional staff of the Bureau of Health is Marguerite C. Dunham, M. D. who has been assigned as District Health Officer in the Aroostook County area. Dr. Dunham's headquarters will be in the Caribou district health office.

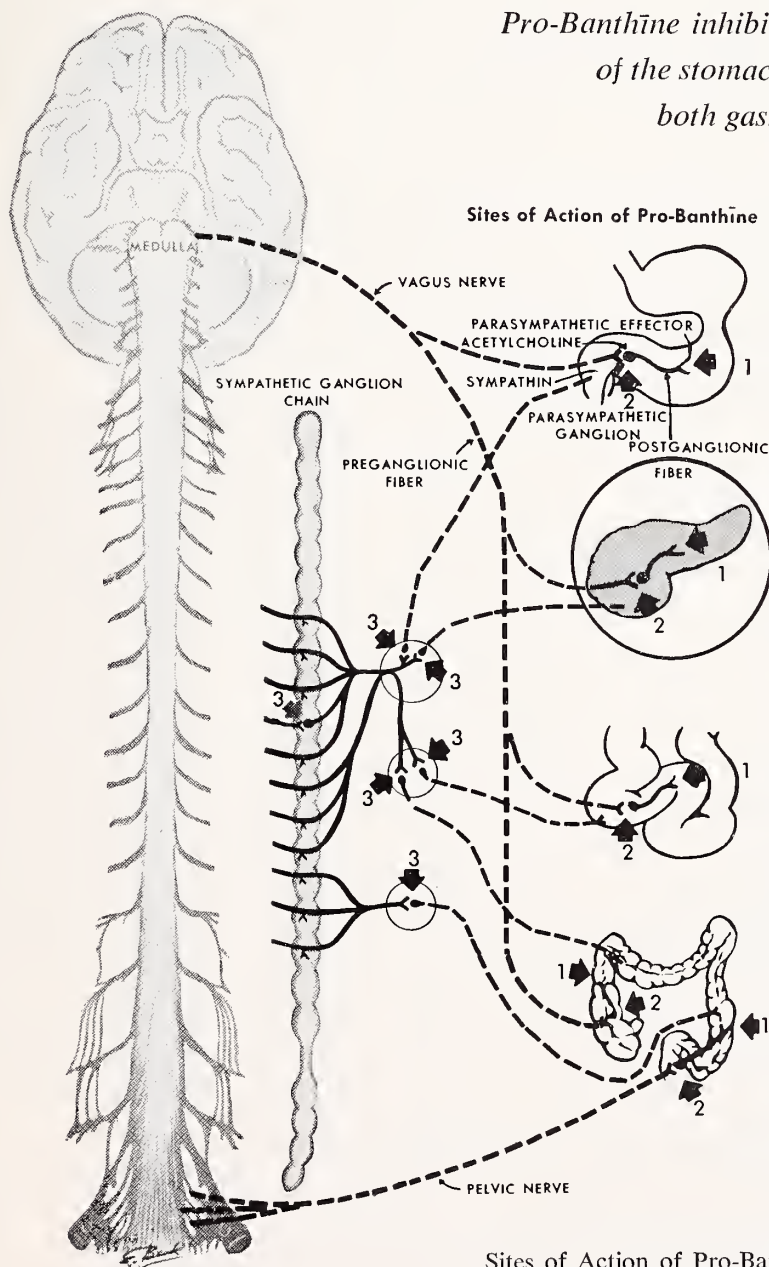
She was educated at the Carpenter School and Brews-

ter Academy in Wolfeboro, N. H.; received her pre-medical degree as Bachelor of Science from the University of New Hampshire; the degree of Doctor of Medicine from the University of Toronto in 1954 and the degree of Master of Public Health from the Harvard School of Public Health in 1956.

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Pro-Banthine bromide (brand of propantheline bromide) also has proved highly effective in the therapy of peptic ulcer, hypertrophic gastritis, diverticulitis, biliary dyskinesia, ileostomies and genitourinary spasm. G. D. Searle & Co., Research in the Service of Medicine.

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Sites of Action of Pro-Banthine. The principal site of action of Pro-Banthine is on the parasympathetic system where it exerts a dual action while exerting a single and lesser action on the sympathetic system: (1) parasympathetic effector; (2) parasympathetic ganglion; (3) sympathetic ganglion (see arrows).

SEARLE

Notices

Pediatric Institute For the General Practitioner

MONDAY, SEPTEMBER 24, 1956

at

MAINE MEDICAL CENTER, PORTLAND

Under the Sponsorship of

THE DIVISION OF MATERNAL AND CHILD HEALTH,
MAINE DEPARTMENT OF HEALTH AND WELFARE

endorsed by the

MAINE MEDICAL ASSOCIATION

PROGRAM

- 10:00 A.M. Welcome — Ella Langer, M.D., Director, Division of Maternal and Child Health
Adolescence — J. Roswell Gallagher, M.D., Chief of Adolescent Unit, Children's Hospital, Assistant Clinical Professor of Pediatrics, Harvard Medical School, Boston, Massachusetts, and associates
- 10:05 A.M. The Characteristics of Adolescents: Their Implications for Treatment
- 10:30 A.M. Psychosomatic Disorders
- 11:00 A.M. Dysmenorrhea and Menorrhagia
- 11:30 A.M. Hypertension
- 12:00 A.M. Questions and Discussion

NOON RECESS

- 2:00 P.M. Retarded Growth and Gynecomastia
- 2:30 P.M. Ulcerative Colitis
- 3:00 P.M. Obesity
- 3:30 P.M. Questions and Discussion

American Urological Association Urology Award

The American Urological Association offers an annual award of \$1000 (first prize of \$500, second prize \$300 and third prize \$200) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel William Penn, Pittsburgh, Pennsylvania, May 6-9, 1957.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1956.

American College of Chest Physicians to Sponsor Postgraduate Courses on Diseases of the Chest

The Council on Postgraduate Medical Education of the American College of Chest Physicians will sponsor the following Postgraduate Courses on Diseases of the Chest this fall:

11th Annual Postgraduate Course, Chicago, Illinois

Hotel Knickerbocker, October 15-19

9th Annual Postgraduate Course, New York City,

Park-Sheraton Hotel, November 12-16

Tuition for each course is \$75 which will include daily round table luncheons. The most recent advances in the diagnosis and treatment of chest diseases will be covered.

Further information may be obtained by writing: Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Symposium on Electrolytes and the Circulation to be held at University of Vermont College of Medicine

On September 8 (p.m.), September 9 (all day) and September 10 (a.m.), 1956, a Symposium on Electrolytes and the Circulation will be held in Burlington, Vermont, under the sponsorship of the Vermont Heart Association and the University of Vermont College of Medicine. It will be devoted to the electrolyte metabolism in congestive heart failure and the role of electrolytes in myocardial metabolism, the electrocardiogram and cardiac arrhythmias, as well as vascular reactivity and hypertension. The guest speakers will include: Drs. S. Bellet, Ch.McC. Brooks, L. Grumbach, S. Hajdu, B. F. Hoffman, A. Kunin, E. J. Leonard, K. I. Melville, A. S. Merrill, A. S. Relman, and R. Tarail. Members of the University of Vermont faculty participating in the Symposium will be: Drs. E. L. Amidon, J. Bland, E. Lepeschkin, W. Raab, W. v. B. Robertson, F. Sichel, E. A. H. Sims, B. Surawicz, B. S. Tabakin, and C. M. Terrien. Further information can be obtained from Dr. Eugene Lepeschkin, University of Vermont College of Medicine, Burlington, Vermont. The Symposium is open to all interested persons.

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Notices

The Academy of Psychosomatic Medicine Third Annual Meeting

The Academy of Psychosomatic Medicine will hold its Third Annual Meeting at the Hotel Plaza, New York City on Thursday, Friday, and Saturday, October 4, 5, and 6, 1956. The program will be key-noted around the subject of the Psychosomatic Aspects of the General Practice of Medicine.

Each morning will be given over to invited speakers. Among others, Dr. Milton Rosenbaum of the Albert Einstein College of Medicine of Yeshiva University will discuss the Doctor's Relationship to the Patient in Psychosomatic Disorders. Dr. George Train of the State University of New York will talk on Pitfalls in the Evaluation of Psychotherapeutic Results. Dr. Avery D. Weisman of Harvard Medical

School, Boston, will explore the Psychiatric Management of Duodenal Ulcer. Dr. Robert B. Malmø, Director of the Laboratory for Psychological Studies, McGill University will discuss "A Neuropsychological Theory of Anxiety."

Each afternoon, in addition to the invited speakers, there will be a panel discussion concerned with the Psychosomatic Aspects of Obesity, on Thursday; General Practice: Where the Psyche Meets the Soma, on Friday; and on Saturday, Allergic Disease.

The Meeting is open to all Fellows, Associate Fellows, their guests, and interested physicians. There is no registration fee. For details concerning the Program and the Speakers, questions should be directed to the office of the Secretary, Dr. Ethan Allan Brown, 75 Bay State Road, Boston 15, Mass.

SOME SKIN MANIFESTATIONS

Continued from page 251

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A CASE OF ERYTHEMA MULTIFORME

Continued from page 256

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Tuberculosis Study in Muscogee County, Georgia

By George W. Comstock, M. D. American Review of Tuberculosis, February, 1956

Fast-tempo community-wide roentgenographic surveys were developed with the hope that identification and treatment of many cases of asymptomatic tuberculosis would markedly improve control of tuberculosis in the surveyed community. During the past decade, with emphasis on this case-finding technique, the tuberculosis death rate has fallen markedly while the reporting of new cases has remained at a high level. The relation of fast-tempo surveys to these phenomena is still in question, and their effectiveness in helping to bring tuberculosis under control has been most difficult to measure.

One way to estimate the usefulness of a chest roentgenographic survey is to study the tuberculosis deaths in a community after the survey, particularly when tuberculosis mortality can be compared among the persons who were and were not examined. It is reasonable to suppose that tuberculosis mortality among participants and non-participants is related to the prevalence of tuberculosis among these groups and, consequently, might help to decide whether persons with tuberculosis participate in surveys to the same extent as do other members of the population.

In 1951 such an analysis was made of the tuberculosis deaths in Muscogee County, Georgia, for the three and one-half-year period after a community-wide chest roentgenographic survey. The important findings of that study may be summarized as follows: Mortality rates for both whites and Negroes decreased but slightly following the survey. Tuberculosis mortality among the surveyed and non-surveyed did not appear to be significantly different, leading to the inference that persons with tuberculosis participated in the survey program to approximately the same extent as did the general population. Death rates among persons with normal survey films revealed an unusually wide discrepancy between the two races: for white persons a low rate — approximately three per 100,000 population per year; for Negroes a rate thirteen times greater. The report tentatively concluded that subject to confirmation "a complete survey in a white population followed by adequate isolation might be so effective that for some time the tuberculosis control program in the community would consist chiefly of the provision of medical care and follow-up services to persons identified as tuberculous in the survey. For Negroes, it would seem that this would not be sufficient."

At the time of the 1951 analysis, it was recognized that the number of deaths and the length of the follow-up period were not sufficient and the study was extended for an additional three and one-half years.

The community-wide survey of 1946 and the subsequent follow-up procedures conducted by the Muscogee County Tuberculosis Study had three notable features. First, the special census of 1946 made it possible to identify, among the 95,518 residents whether or not they obtained roentgenograms in the survey and allowed the identification of persons moving to Muscogee County subsequent to the 1946 program. Second, the roentgenographic screening during the seven years following the survey was quite extensive, including a second community-wide survey and eight surveys of special groups and a chest clinic screening program comprising about 20,000 roentgenograms each year. Even more important was the relationship with hospitals and private physicians which ensured that virtually all suspected cases of tuberculosis became known

to the health department. Third, careful attention has been given to the verification of all reported tuberculosis deaths and to the investigation of all deaths in which tuberculosis might have been involved.

Pre-survey and post-survey mortality rates:

Tuberculosis mortality in Muscogee County is reported for three and one-half-year periods; one before the survey and two following it. From the first to the second period, the rate of decline in mortality among both races was somewhat less for Muscogee County than for the United States as a whole. From the second to the third period, the rate of decline among whites was greater than the national rate whereas for the Negroes it was approximately the same. In all periods, the mortality rates for both races were appreciably lower than those for the nation as a whole.

The difference in subsequent tuberculosis mortality between the portions of the population who had had chest films and those who had not was estimated. For both races, excluding those known to have had tuberculosis before the survey, the adjusted average annual tuberculosis mortality rates during the seven-year period following the survey were 24 per 100,000 among Muscogee County residents who had a survey film and 22 per 100,000 for those who did not. For whites, the rates were 8 and 10; and for Negroes, 63 and 50 respectively.

It seems likely that persons who had had survey films would have had their tuberculosis detected at a stage more favorable for treatment than those who were not examined. Consequently, one would expect a lower mortality among those who had had chest films than among those who had not. However, the mortality rates for whites were essentially the same in both groups, whereas Negroes with subsequently fatal tuberculosis were more concentrated among the surveyed population. These findings lend no support to the hypothesis frequently advanced that persons who have reason to believe they may have tuberculosis tend to avoid participation in chest roentgenographic surveys.

A comparison of the death rates among whites and Negroes with "positive" and "negative" survey films showed that the mortality rates for "survey positive" cases are rather high: 340 per 100,000 for whites and 1,490 for Negroes. In other words approximately 2.5 per cent of the whites and 10 per cent of the Negroes with evidence of tuberculosis in their survey films have died of tuberculosis. It is obvious that tuberculosis is a serious disease even when discovered by examining an ambulant and largely asymptomatic population.

Among the population with normal survey films, the mortality rate for whites still remains low: 3 per 100,000 persons per year indicating that fatal tuberculosis was uncommon during the next seven years among white persons whose survey chest films were read as normal.

In striking contrast, the Negro rate is 45 per 100,000 persons per year for "survey negatives," 15 times that of the white "survey negatives," and essentially the same as that for the general Negro population in the last three and one-half years of the study period. This is strong evidence that a single survey of a Negro population, even when followed by an intensive tuberculosis control program aimed primarily at the cases discovered in the survey, is not sufficient to bring the disease under control.

An analysis of the deaths from tuberculosis in Muscogee County, Georgia, leads to the conclusion that a complete roentgenographic survey of a white population followed by adequate isolation of the infectious cases could reduce the tuberculosis control program, for several years at least, to the provision of medical care and follow-up services for persons identified in the survey as tuberculous. For a Negro population, it appears that case-finding programs should be repeated more frequently.

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Intramedullary Fixation Of Fractures Of The Shaft Of The Tibia With The Lottes Nail

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The greatest advance in the treatment of fractures of the long bones has come with the modern application of the intramedullary fixation of the fragments by the use of metallic nails. It is to Kuntscher, who in 1940 presented his method of the intramedullary fixation of fractures, that the bulk of the credit is due. His work gave impetus to and renewed interest in this method of treating fractures of the long bones. Today, the fixation of fractures of the middle third of the femur, by the use of an intramedullary nail, is considered the treatment of choice in all but the infant and the adolescent.

Recent work by Lottes and Key would indicate that fractures of the middle third of the tibia may be as successfully treated by intramedullary fixation as those of the femur. The question of why intramedullary fixation is so successful, and why the older methods of closed reduction and open reduction and plate fixation are giving way to this method may best be answered by reviewing the long established principles of fracture treatment. These principles are:

- A. The restoration, as far as possible, of the anatomical alignment of the bone fragments.
- B. The uninterrupted immobilization of the fragments until union has occurred.
- C. The maintenance of the individual's mental and physical good health during the long period of bone repair.
- D. The return of the patient to his occupation in the shortest possible time.

The intramedullary nail facilitates the anatomical alignment of the fracture fragments in most cases and holds the fragments in such firm position that weight-bearing may frequently be begun in less than two weeks. The early ambulation of the patient promotes general bodily health, leads to a brighter mental outlook, and assures an earlier return to work. Unfortunately, the other accepted methods of treatment, e.g., closed reduction or open reduction and plate fixation, not infrequently fail to meet the requirements as listed above. Closed reduction may be impossible due to the interposition of the soft tissues between the fragments, and when it can be accomplished it may be impossible to maintain

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the alignment. One of the characteristics of fractures of the shaft of the tibia is the tendency to redisplacement of the fragments when the swelling subsides, particularly in spiral and oblique fractures. Serious disability results if the alignment or the rotational position of the fragments is imperfect, because the knee and ankle joints move in the same parallel axis. Plate fixation frequently permits anatomical alignment of the fragments; however, the plate may then hold the bones in distraction and permit rotational movements, thus leading to delayed or non-union of the bone.

In a comparative review presented by Lottes and Key of 216 fractures of the tibia, of which 65 were treated by closed reduction, 49 by open reduction and internal fixation with a plate, and 101 consecutive cases by intramedullary fixation, the following results were noted.

Length of Hospitalization:

The average time in the hospital for patients with simple fractures was 1.9 months for those treated by closed reduction, 2.7 months for those treated by open reduction and plate fixation, and 1.2 months for those treated by intramedullary fixation. In patients with compound fractures, the average time spent in the hospital was 3.5 months for those treated by debridement, reduction, and immobilization in a plaster cast without

internal fixation; 3.3 months for those fractures immobilized by plates; and 1.3 months for those immobilized with an intramedullary nail.

Time Elapsed Prior to Full Weight-Bearing in Cast:

A. Simple Fractures: As one might expect, there was a marked difference in this respect in favor of patients with fractures which were fixed with an intramedullary nail. For simple fractures, forty-four per cent of these were walking in their cast by the end of the first month; eighty per cent were walking at the end of the second month, and ninety-five per cent by the end of the third month. In the simple fractures treated by closed reduction and cast immobilization, only ten per cent of the patients were walking in their casts by the end of the first month; this number did not increase until the end of the third month, when forty per cent were walking in their casts. Of the group treated by open reduction and plate fixation, none were walking at the end of the first month, and only twenty-six per cent were walking in their casts by the end of the third month.

B. Compound Fractures: For compound fractures, the elapsed time before full weight-bearing in the cast was permitted was longer. The average time was 6.1 months for patients treated without internal fixation; 5.3 months



Case 1 — Fig. 1. Antero-posterior X-ray taken on admission to hospital, Oct. 20, 1955.



Case 1 — Fig. 2. Antero-posterior X-ray April 2, 1956, showing good bone union.

for those who had been treated by plate fixation; and only 2.3 months for those who had been treated by intramedullary nailing.

Time Elapsed Before Full Weight-Bearing Without Support:

The average time before full weight-bearing on the unsupported fractured extremity was permitted was 5 months for patients with simple fractures, and 6 months for compound fractures treated by nailing; 7.2 months for simple fractures, and 10 months for compound fractures treated without internal fixation; and 10 months for simple fractures, and 11.8 months for compound fractures treated by plate fixation.

In this large series of cases, the most serious complication was non-union. This occurred in six of sixty fractures treated without internal fixation, in ten of forty fractures fixed with plates, and in none of eighty-one fractures treated with an intramedullary nail. This remarkable absence of non-union in those fractures treated by intramedullary nailing attests to the soundness of the procedure.

Although fractures of the femur have been successfully treated by intramedullary fixation for about sixteen years, it has only been in the last five years that comparable results have been obtained with nailing of the shaft of the tibia. The basic reason for this is that it was not until about 1950 that Lottes introduced the curved, three-flanged nail bearing his name. Other nails have been used, but with varying degrees of success. The Lottes Tibial Nail snugly fits the medullary canal of the mid shaft of the tibia of the adult bone, and because of its three-flanged shape, it prevents to a great degree rotational movements of the fragments.

The operative procedure for those experienced with the intramedullary fixation of fractures is not difficult and certainly less shocking than the generally well-tolerated procedure for the femur. The cases, however, must be selected, and it is not suitable for fractures *outside* the middle third of the shaft of the bone.

CASE REPORTS

Two patients with compound fractures of the shaft of the tibia were treated at the Augusta General Hospital in 1955 by intramedullary fixation with a Lottes nail.

Case I: A forty-eight-year-old, white lumberman was admitted to the Augusta General Hospital shortly after sustaining a compound fracture of the shaft of the left tibia on October 20, 1955. The physical findings were normal with the exception of severe swelling about the left leg. A small puncture wound was also present. X-rays on admission revealed an oblique fracture of the mid shaft of the left tibia and fibula, with moderate displacement and severe soft tissue swelling. The wound was cleaned and dressed and a Kirschner wire was placed in the left os calcis. The patient was placed in a Bohler-Braun frame with 6 lbs. of traction.



Case 1 — Fig. 3. Lateral X-ray April 2, 1956 showing good bone union of tibia.

By October 26, 1955, most of the swelling of the leg had subsided, and the patient was taken to the operating room where a Lottes intramedullary nail was inserted. A long leg cast was applied. On the tenth post-operative day, the cast was changed and the sutures were removed. A new cast was applied with a walking heel. The patient was discharged from the Augusta General Hospital on November 12, 1955, the eighteenth post-operative day, and was permitted weight-bearing with crutches. On April 2, 1956 x-rays revealed good bone union, and the cast was removed. The patient has borne full weight on the injured extremity since that time with no difficulty.

Case II: A fifty-four-year-old white male was admitted to the Augusta General Hospital on December 24, 1955 with a badly compounded fracture of the left tibia and fibula, sustained when he was struck by an auto shortly before admission. The physical findings were essentially normal, with the exception of a compound fracture of the left tibia and fibula. The patient was readied for surgery, and approximately two hours after admission he was taken to the operating room where the compound fracture was debrided and a Lottes intramedullary nail was inserted into the tibia. A well-padded, long-leg cast was applied, and the patient



Case 2 — Fig. 1. Pre-operative antero-posterior X-ray of compound fractures of tibia and fibula, December 24, 1955.



Case 2 — Fig. 2. Post-operative X-ray with Lottes Nail in place, December 24, 1955.

was returned to his bed. On the twelfth post-operative day, the cast was bivalved and half of the sutures were removed. There was a small area of skin loss, one cm. in diameter, where the tibia had previously broken through the tissues. The wounds were clean however and were dressed. On January 18, 1956, the wound had completely healed, and a new long-leg cast was applied with a walking heel. The patient was permitted weight-bearing on the involved leg with the aid of crutches. The following day, the patient was discharged,

twenty-seven days after admission. He has continued to bear weight satisfactorily. The latest x-rays, taken in May, 1956, showed continued excellent position of the fragments with satisfactory healing taking place.

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Wolff Parkinson White Syndrome

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In 1930, Wolff, Parkinson and White first described a clinical entity consisting of an unusual electrocardiographic pattern occurring in patients who were in good health except that they were subject to repeated episodes of paroxysmal ectopic tachycardia, invariably supraventricular in origin.⁽¹⁾ The EKG pattern, diagnostic of this condition, consists of three major components (a) a short PR interval of 0.10 seconds or less; (b) widened QRS complex; 0.12 seconds or more; (c) a characteristic slurring or notching, (the delta wave) always occurring on the initial portion of the QRS configuration in all leads, differing from the slurring of bundle branch block which is present in various portions of the QRS complex depending on the lead taken. The mechanism for these unusual EKG changes is believed due to a anomalous conduction via accessory pathways between the auricles and ventricles, bypassing the AV node, and thus avoiding the normal delay at the AV node.⁽²⁾ This hypothesis has been strengthened by histological demonstration of the accessory bundle of conduction tissue (Bundle of Kent) bypassing the AV node in a patient who had the WPW syndrome.⁽³⁾ However, the same accessory Bundle of Kent has been demonstrated histologically in patients who did not have the WPW syndrome.⁽⁴⁾ A provocative report of two patients where EKG studies reveal both normal and WPW conduction suggested to the author the possibility that the anomalous conduction "may be present and lie dormant," a latent form of WPW syndrome.⁽⁵⁾

The WPW syndrome is not related to organic heart disease. When there is concomitant heart disease, the EKG will not reveal the anticipated changes, for the anomalous conduction will dominate. However, in a study of four cases of myocardial infarction occurring in patients who had the WPW syndrome, if the anomalous condition could be broken and normal conduction obtained, the EKG changes of the infarction were recorded.⁽⁶⁾ Conversion of anomalous conduction to normal conduction has been effected by carotid sinus stimulation, deep inspiration, quinidine, atropine, and amyl nitrate.⁽⁶⁾ A study of 1356 patients at an Army General Hospital revealed an incidence of the WPW syndrome of 0.5 per cent.⁽⁷⁾

CASE REPORT

Mrs. A. L., Sisters Hospital, is a 36 year old woman who had episodes of rapid heart action for "as long as I can remember." The attacks started with pounding in the chest at a rate too rapid for the patient to count,

lasting from five to thirty minutes, never associated with chest pain or dyspnea, and terminating abruptly. She experienced three to four episodes per week for several months, and then she would be free of the paroxysmal attacks for as long as six months. There appeared to be no known stimuli which would produce or prevent these episodes. Leaning her head over the side of the bed or carotid sinus pressure was effective in terminating an attack. Attempts to prevent the recurrent episodes of paroxysmal tachycardia with belladonna, quinidine, digitalis and mild sedatives were ineffective.

For the past year, she has experienced recurrent episodes of left sub-mammary chest pains lasting from one to fourteen days, aggravated by inspiration and movements of the chest wall, with local tenderness to touch, occurring at rest as well as on exertion, never causing her to stop her physical activities, and associated with parathesias of the finger tips, cold perspiring palms, flushed face, belching and light headiness suggestive of hyperventilation syndrome. Nitroglycerine had no effect on these symptoms.

There was no history of diphtheria, rheumatic fever; no family history of heart disease though some distant relative died suddenly in middle age.

The physical examination was not remarkable; blood pressure 120/80, pulse 80 and regular; the heart sounds were of good quality, there were no murmurs and no evidence of thyrotoxicosis or xanthomatosis. Laboratory studies revealed that urinalysis and hemogram, sedimentation rate, VDRL, chest X ray, upper GI series, gall bladder series were all within normal limits. The EKG revealed the changes diagnostic of Wolff Parkinson White Syndrome. Although no electrocardiographic documentation of the ectopic tachycardia was made, the tachycardia is believed to be of supraventricular origin.

Because of the symptoms of the hyperventilation syndrome, the patient was made to breathe deeply and by the third deep breath she experienced severe left sub-mammary chest pain and light headiness which was recognized as identical to her symptoms. The following day an attack of severe chest pain was terminated by having the patient stop mouth breathing. Eight months later, these symptoms due to hyperventilation had been controlled to the degree that they were no longer of consequence to the patient.

SUMMARY

A case of Wolff Parkinson White Syndrome has been presented in which drug therapy could not prevent re-

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The Nasal Entrance In Relation To Nasal Function

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The purpose of this paper is to discuss inspiratory nasal obstruction and its relationship to respiratory function. Increased interests have recently been focused on the external structure of the nose and the role it plays in respiratory difficulty. The literature on the various techniques and end results of rhinoplasty is voluminous, and for this reason I shall avoid discussing this phase of the subject.

Plastic repair of the nose aims to improve function where it is lacking as well as to improve cosmetic appearance, and it is the value of the former that I shall emphasize in this article. The incidence of deformities and obstructions occurring at the nasal entrance is surprisingly great. The percentage occurring in male patients averages as high as fifty per cent. The percentage in female patients is considerably lower, probably because they are not subjected to the rigorous hazards of modern sports. The number of nasal tip deformities which are congenital in origin are small in comparison to the number produced by nasal injuries. Many of the injuries occur among children in infancy and early childhood and unfortunately go unrecognized. A trivial blow on a child's nose resulting from a fall will often displace the tip of the cartilage in its septum. It is well to point out at this time that every child who receives nasal trauma should have the benefit of an examination by a rhinologist. These accidents are frequently thought little of by the parents and the unfortunate child has a displaced tip cartilage which becomes increasingly worse as time goes on. The incidence of neglected nasal injuries in the adult male is much greater than it should be. This is especially common among boys who participate in dangerous sports such as hockey, basketball and football. There, boys often accept a nasal injury as a part of the game, do nothing about it until they experience difficulty in breathing in later years.

All patients with deformities of the nasal entrance possess one complaint in common and that is difficulty in nasal breathing. If the deformity is so marked as to produce an ugly appearing external nose, the patient may comment on this fact and request surgical correction. Nasal obstruction may be due to a deflected septum, nasal allergy, polyps, a deformed nasal entrance or a combination of these factors. The ratio between the

degree of the deformity of the nasal entrance and interfered respiration is greater than that produced by other types of nasal obstruction.

A columella that is thickened 5 mm will restrict the normal in-flow of inspiration as will an alar collapse of but a few degrees. On the other hand, a septum may be deflected twice this amount and still produce no respiratory disturbance, because the current of air may have adequate room for flow above. The function of the nose is well known to all of us, but its role as the air conditioner of the body is sometimes forgotten and disregarded. The volume of air passing through the nose must be filtered, moistened, warmed or cooled depending upon the patient's climatic environments.

If the nasal entrance offers resistance to the incoming air then the physiological air conditioning function of the body is disturbed. If the resistance is great enough, the patient may be compelled to breath entirely through his mouth or increase the work load placed upon his respiratory muscles. We often overlook the fact that the muscles of the nose are accessories of the respiratory system and thus they act upon the nasal cartilages and in so doing regulate the size and shape of the anterior nares. Any abnormal arrangement in the nasal cartilages or weakening of the musculature may affect not only nasal physiology but respiratory as well. Minor entrance defects may set up a train of symptoms just as a septal spur will do intranasally. Proetz in discussing nasal hygiene states:

"It can be seen that sometimes septal spurs and other structural irregularities which may not be actually obstructed may still divert the air current in such a way as to interfere with the nasal hygiene."

It is now a well established fact that the process of respiration is influenced to a great extent by the relative size of the nostril. The size and position of the anterior nares is determined by the character of the nasal tip and its surrounding anatomical structures. From these facts, it can be understood how a deflection of air current by a collapse or twisted or depressed nasal tip can in turn influence the size and position of the nasal entrance and in so doing affect the nasal physiology.

A collapse of the lateral cartilagenous wall of the nose is a rather common condition and it is often referred to as a collapsed ala. This is an indirect type

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of obstruction for breathing is interfered with only on inspiration when the lateral wall is sucked in against the septum. When this occurs, the nostrils appear slit-like with each inspiration and the nose at this moment appears pinched. The deeper the patient's inspiration, the narrower the anterior nasal openings. When the patient exhales the alae usually return to normal position and the nares dilate. Many patients afford themselves temporary relief from this type of obstruction by drawing the cheek outward with their fingers and thus dilating the nares.

Weakness of the alae cartilages usually occurs in individuals with long thin noses. The patient with a broad face usually has a broad nose which presents wider anterior nares, and collapsed alae are seldom seen in this type of case.

A depressed nasal tip, commonly referred to as a flat nose, can prevent a normal current of inspired air. These noses can be the result of poor anatomical development or distorted cartilage secondary to septal abscess, injuries, or a submucous resection which was too extensive in its scope. When the tip of the nose sags forward it tends to narrow the nostrils and these people can breathe easily only if they elevate the tip of the nose with their fingers.

The muscles of the nose are seldom thought of and they are often overlooked as having any function in respiration. These nasal muscles may be regarded as rudimentary and yet they exert influence upon the size of the nasal opening and aid in giving tonus to the lower nose. The clinical picture of a patient with laryngeal obstruction illustrates this point as the nares dilate widely as the patient fights for air. Patients who have experienced facial paralysis almost always state that they have difficulty in breathing through the nostril on the involved side. In these cases there can be observed a collapse of the cartilagenous wall of the nose on the same side. This fact illustrates the role of the dilator muscle in keeping the nasal orifice patent.

The negro seldom experiences difficulty in nasal breathing because of the anatomical construction of the tip of the nose. In this race, the nasal tip is lower, flatter, wider and the septum is shorter than in the white race. Nature arranged this tip so that the negro would have a short, direct nasal tube which would permit a fast exchange of air as is necessary in a hot climate.

Dyspnea of all types interferes with normal activities of every day life; and although nasal obstruction does not play the role which cardiac and pulmonary diseases do, it should not be overlooked as a factor in the production of this symptom. The patient may call the physician's attention directly to his nose, or he may simply state that he does not seem to get enough air. In all these cases, a careful history of previous accidents should be obtained. An inspection of the tip of the nose will readily reveal whether or not it is interfering with the normal nasal breathing.

The tip deformities which I have discussed in this paper are frequently associated with gross irregularities of the nasal dorsum. When such combinations exist, the surgical procedure should be directed toward the improvement of the functional aspects as well as the cosmetic problem. Only too often a nasal plastic improves only a patient's vanity and allows him to struggle on with poor nasal function.

SUMMARY AND CONCLUSION

The nasal entrance is frequently overlooked as a possible factor interfering with nasal respiration and hygiene. The redundant nasal tip, the twisted tip, the deformed nasal cartilages and the depressed nose are important factors in proper nasal breathing. Since many of these are traumatic in origin, it is of utmost importance to make certain that nasal trauma has not involved the tip of the nose and if it has, then proper steps should be taken to correct it as soon as possible, and thus prevent residual nasal complication.

WOLFF PARKINSON WHITE SYNDROME — (Continued from page 273)

current episodes of paroxysmal tachycardia. A superimposed cardiac neurosis manifested by hyperventilation was successfully treated by reassurance therapy.

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Treatment Of Rectal Procidentia

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This paper deals with one method of treating a rare but distressing condition. Bacon¹ defines procidentia as an abnormal descent of all coats of the rectum with or without protrusion through the anal orifice. Prolapse is the abnormal descent of the rectal mucous membrane only. It is with the former condition, in which all the coats protrude as a round or oblong mass outside the anal orifice, that this paper concerns itself.

Since Moschoivitz describes this condition in 1912, numerous papers have appeared and many different methods of treatment have been presented. There is a gradually growing conviction that no one method is suitable for all cases, but that at least two methods should be well understood by any surgeon before he attempts to treat these patients. In the young, middle-aged or even some of the elderly patients who enjoy good physical health, there is very little question but what the abdominal approach offers the most satisfactory result. It is one particular abdominal approach that will be dealt with later on and which forms the basis of this paper. It is in the very elderly, or middle-aged who are in poor health and would not be a good risk for such an abdominal procedure, that a simple amputation with plastic repair, (a Modified Delorme² operation) would be best suited.

Clinically, these patients vary from children to the aged, but they are most commonly found in the forty to seventy age group. Signs and symptoms evolve around the presentation of a rectal mass. At first this is usually the size of a plum or lemon and occurs infrequently. There is a gradual progression both in the size of the mass and in the frequency of its occurrence. The mass often reaches the size of a large orange or small grapefruit and may present itself whenever the patient strains at stool, does any bending or lifting and in some extreme cases whenever the patient even rises from a sitting position.

Besides the obvious discomfort there is also the problem of manual reduction which can be painful and difficult, especially if the mass has been present for any length of time as is often the case in some of the mental patients. The associated bleeding is not usually of much significance, although a rare hemorrhage has been reported.

This present study consists of ten patients operated on by the author over the span of four years, from 1952-1956. Of these, eight were mental patients in the Augusta State Hospital and the other two were private

patients. The ages ranged from forty-three to seventy-six with the average age of fifty-three. There were nine females and one male and this increased incidence in females holds true in most of the series of cases reported. Of the nine females, three were married and had had more than one child, six were single and had never borne children. Of the eight patients who were mental patients in the Augusta State Hospital, six had schizophrenia with paranoia as the diagnosis, one was a manic depressive and one had epilepsy with psychotic episodes. Of the two private patients who were mentally competent, one was a fifty-nine-year-old male shoe shop worker and the other a seventy-six-year-old woman whose prolapse was found to be due to a small (2cm x 3cm) polyp in the distal sigmoid which pushed its way right out through the anus. She was the only one in which any definite cause for the procidentia could be established, and she is included in this series because the method of her repair was the same.

What causes this condition and why should it be more prevalent in the mental institutions? Are there any definite physical findings which are common to people having this condition? These questions have not been answered satisfactorily. I have found no common physical findings except that there have been no fat people with procidentia, — rather the subjects are thin or of medium build. Also they usually have poorly developed bowel habits and are chronically constipated. The anal sphincter has good tone early but after repeated procidentias it becomes quite relaxed.

Upon opening the abdomen no abnormal length of sigmoid is found in every case nor can I detect any abnormalities about fixation of the rectum nor of the depth of the Pouch of Douglas.

The operation is simple and straight forward, amounting to no more than an anterior resection. Although this is a major procedure, if one chooses his cases carefully, he should have a low mortality and practically no recurrence. Four years is a short time to have followed these cases, but of the ten we have operated upon, there were no deaths and no recurrences. There was a prolonged morbidity in one case due to a reaction from the sulfathaladine used in preparation of the bowel.

The patients were routinely prepared for five days with six grams of sulfathaladine daily, given in divided doses, and clear liquids only on the last two days. Then they were brought to operation after a Levin tube had been placed in the stomach the night before surgery with the suction turned on for the six hours prior to surgery.

*Augusta General Hospital, Augusta, Maine.

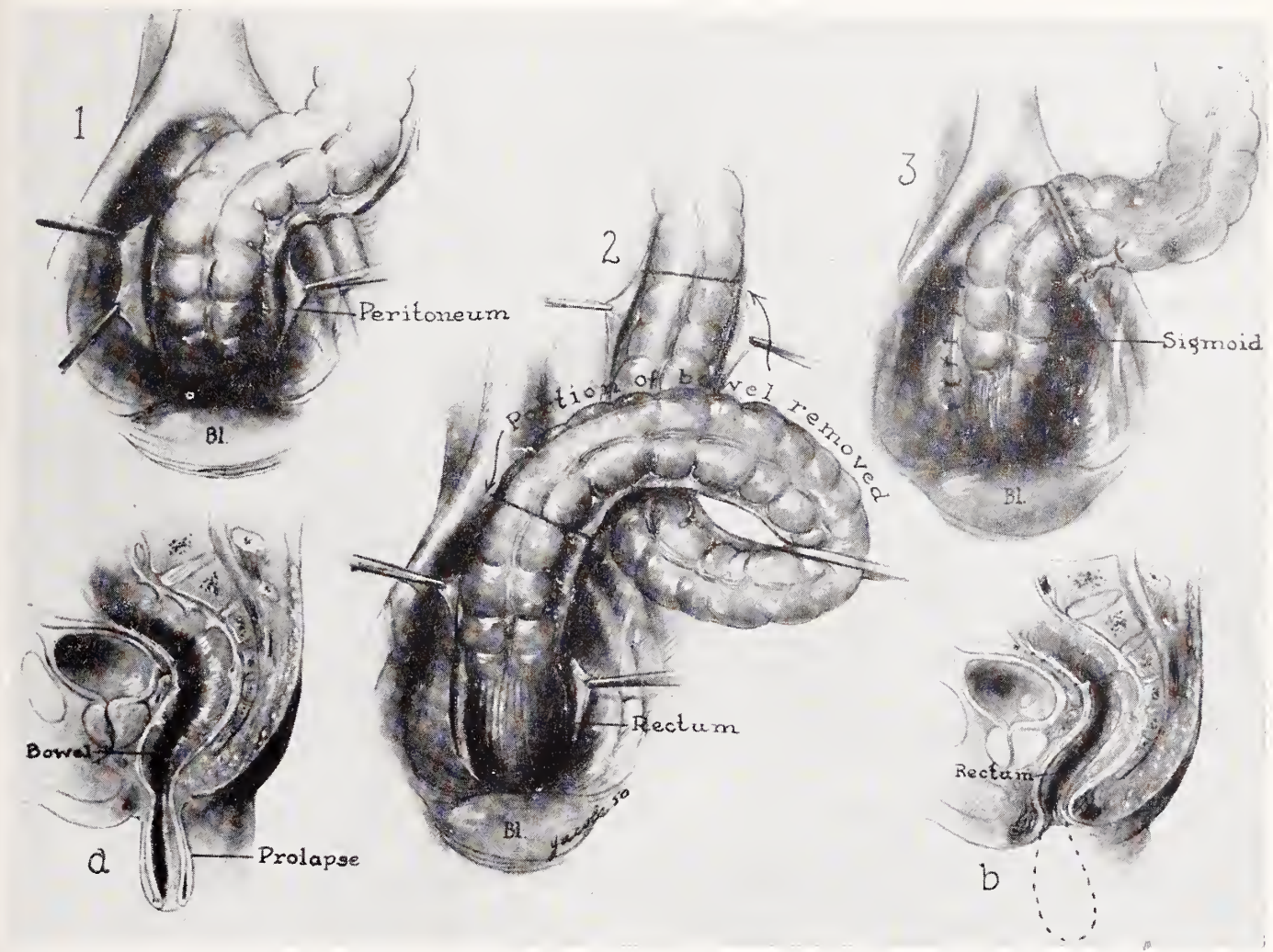


FIG. 1

The abdomen was entered through a left rectus muscle splitting incision and the sigmoid and distal one third of the descending colon were mobilized. The peritoneum on either side of the rectum was incised down to the pelvic reflection and the superior hemorrhoidal vessels identified and drawn forward with the rectum and blunt finger dissection carried out posteriorly down to the coccyx in the same manner as in the first steps of a Miles resection. The operators fingers are then swept laterally and anteriorly and the rectum is separated from prostate in the male, and vagina in the female. The lateral ligaments are clamped, divided and ligated. (This protection of the superior hemorrhoidal vessels may not be necessary but it is comforting to know that one has a good source of blood coming down to supply the distal segment and is not dependent on the inferior hemorrhoidal vessels alone.) After complete mobilization of the rectum has been obtained, there is considerable redundant recto-sigmoid. This is then resected and a careful two layer open type of end to end anastomosis performed. The usual resection excises from eight to fourteen inches of bowel and leaves a smooth, taut but not tight curve



FIG. 2

of bowel running over the pelvic brim with no redundancy whatsoever. With the reaction and scar tissue caused by the mobilization plus the resection of the redundant bowel, there is nothing left to prolapse unless it be mucous membrane and to date this has not occurred. (See Fig. 1)

CASE REPORTS

Two cases are presented as examples:

A forty-six year old single white female was admitted to the Augusta State Hospital in 1939, at the age of thirty, with the diagnosis of schizophrenia-paranoid type.

She developed a rectal procidentia in 1952, which occurred infrequently at first, but in 1954 it had progressed to the stage where the rectum presented itself with every bowel movement, whenever she coughed or sneezed or increased her intra-abdominal pressure from any cause. During psychotic episodes, when she lost contact with her surroundings, manual reduction of the procidentia was required eight or ten times daily. (See Fig. 2) For this reason a repair was carried out ac-

cording to the procedure outlined above with eleven inches of bowel being removed. She is now almost two years post-repair and no signs of a recurrence have developed.

The second, an unmarried patient, age sixty-three, has been a patient at the Augusta State Hospital since 1918, with a diagnosis of schizophrenia-hebephreniac type. In 1947 she began to develop a rectal procidentia which increased in the frequency of its occurrence so that in 1952 it was presenting itself one or two times daily. On each occasion, the nurses or attendants would not become aware of it for some hours, and by then there would be considerable edema, often bleeding and usually it was quite difficult to reduce this bowel.

She was operated upon in September, 1952, with ten inches of bowel resected. There has been no recurrence.

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SAVE THESE DATES

November 18, 19, and 20

for the

FALL CLINICAL SESSION

of the

Maine Medical Association

To Be Held In Lewiston

Biliary Fistula

JOHN H. CROTTY, M.D.*

It is my purpose to review the literature on biliary fistula and to present a case of internal biliary fistula complicated by gallstone ileus. In this paper only spontaneous internal biliary fistula will be considered.

An internal biliary fistula may be defined as an abnormal communication between the gallbladder and the bile ducts and any other viscus, most commonly in the abdomen but elsewhere as well. It occurs as a late complication of advanced cholecystitis and cholelithiasis and has become increasingly rare in recent years with the development of more accurate methods of diagnosis of gallbladder disease and the surgical removal of the stone-filled gallbladder.

Biliary fistulas are always secondary to pathological change in the biliary tract. The fistulas occur between organs in close apposition to the biliary system. Most fistulous communications are single but occasionally multiple fistulas are encountered. A wide variety of types of fistula have been described. Communication with practically any of the abdominal or thoracic viscera is possible. Gallstones have been found in such bizarre locations as the bronchi, pericardium, bladder, uterus, vagina, kidney pelvis, portal vein and hepatic artery⁽²⁾. However, a review of the literature indicates that the most common type of biliary fistula (over 90 per cent) is between the gallbladder and the alimentary tract. Of the cholecystoenteric fistulas the vast majority occur between the gallbladder and the duodenum. Next in frequency is the fistula between the gallbladder and the colon; less commonly is the fistula between the gallbladder and the stomach. Least common is the fistula due to erosion of a stone from the gallbladder into the bile ducts or from the bile duct into the duodenum. Judd and Burden⁽¹²⁾ in 1925 reported a series of 153 cases of internal biliary fistula. In 117 of these cases the fistula was between the gallbladder and the duodenum; in 6 between the gallbladder and the stomach; in 26 between the gallbladder and the colon and in 4 between the duodenum and the colon. Wakefield et al⁽²¹⁾ reported a series of 152 cases of non-surgical cholecystoenteric fistulas in 1939 of which 101 were between the gallbladder and the duodenum, 33 were between the gallbladder and the colon and 7 were between the gallbladder and the stomach. In their series there were 11 cases of multiple fistulas between the gallbladder and multiple adjacent organs and intestines. Carlson, Gates and Novacovich⁽³⁾ reported 13 cases of spontaneous internal biliary fistula between the gallbladder and the

gastro-intestinal tract. In their series there were 10 cases in which the fistula was between the gallbladder and the duodenum, 2 cases between the gallbladder and the stomach and 1 case between the gallbladder and the colon. Fistulous communication between the gallbladder and small intestine is very rare, although such cases have been described in the literature. Naunyn reported 1 case of a fistula with the jejunum and another case of a fistula with the ileum in a series of cases. In a series of 84 cases at the Mayo Clinic⁽⁶⁾ no fistulas to the small bowel were encountered. As mentioned previously fistulas involving the bile duct are not common. Garland and Brown⁽⁸⁾ in 1942 reported 2 cases of choledochoduodenal fistula and 8 cases of cholecystoenteric fistula of which 7 were between the gallbladder and the duodenum. Behrend and Cullen⁽¹⁾ reported 3 cases of cholecystocholedochol fistula in 1950. Patt and Koontz⁽¹⁷⁾ in 1951 reported 2 cases of cholecystocholedochol fistula.

INCIDENCE

The actual incidence of spontaneous internal biliary fistula is not known. Puig-Sureda⁽¹⁸⁾ calculated an over-all incidence of spontaneous biliary fistula as 0.22 per cent in a total of 66,340 necropsies in which gallstones are found. Rigler and Borman⁽¹⁰⁾ reported 67 internal biliary fistulas in 30,000 autopsies. A higher percentage incidence has been recorded in the literature.

AGE AND SEX

Biliary fistulas are found in persons past the age of 50, rarely in a young person. Most of the patients are in the sixth and seventh decades of life. Spontaneous internal biliary fistulas are 3 to 5 times more common in women than in men. This is logical when one considers that gallbladder disease has a higher incidence in females. In Judd's series of 153 patients 117 were women.

ETIOLOGY

In 90 per cent of the cases spontaneous internal biliary fistulas are found in association with gallstones. In all of the cases reported by Carlson et al⁽³⁾ a gallstone was the etiologic agent. A duodenal ulcer which perforates and gradually erodes into the gallbladder, accounts for 6 per cent. Least commonly biliary fistulas arise in association with neoplastic growths of the stomach, gallbladder and pancreas.

Internal biliary fistulas occur in patients who have had a long history of cholecystitis and cholelithiasis. There is an acute suppurative inflammation of the gallbladder with an accompanying pericholecystitis. With

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repeated attacks adhesions form between the gallbladder and nearby viscera, most commonly the duodenum. A calculus impacted in the wall of the gallbladder may slowly erode its way through the wall of the gallbladder and adjacent organs as the pathological process becomes chronic. In this way a fistulous tract is formed. Less commonly a calculus may erode its way through the wall of the common bile duct. Biliary fistulas can and do heal spontaneously.

SYMPTOMS AND SIGNS

The clinical picture varies depending upon the stage in which they are encountered. There is usually a long history of gallbladder or biliary tract disease. In the series of 84 cases at the Mayo Clinic from 1945 to 1950, 60 per cent of the patients had had complaints referable to the gallbladder region for a period of 5 years or more and a history of biliary tract disease for more than 30 years was not unusual. In most cases the patients have had complaints suggesting chronic biliary disease for 10 to 12 years. The majority of patients have had repeated attacks of gallbladder colic with pain, fever, dyspepsia, nausea and vomiting, and fatty food intolerance. Jaundice may or may not have been present at one time. In the series of cases at the Mayo Clinic 53 per cent gave a history of jaundice or had elevation of the serum bilirubin or both at the time of operation. There is no specific group of symptoms; yet, if the possibility of a fistula is considered, particularly in a female in the sixth or seventh decade of life with a long history of chronic gallbladder disease, the history may be suggestive and the pre-operative diagnosis will be made more often.

It has been reported in the literature⁽¹⁰⁾ that the formation of a fistula may cause marked improvement or sudden cessation of the patient's complaints. That this may occur in some cases is not denied but the usual outcome is an intensification of the patient's discomfort with the formation of a fistula. Once the fistula has formed there is contamination of the biliary tract and liver by the intestinal contents which adds to the already present infection.

The first indication of a biliary fistula may be the onset of small bowel obstruction due to an impacted gallstone; or the patient may pass a large gallstone in the feces in cases of cholecystocolic fistula or may vomit a gallstone in the presence of a cholecystogastric fistula. Expectoration of bile or the coughing up of a gallstone indicates the presence of a bronchobiliary fistula.

ROENTGEN FINDINGS

The diagnosis of spontaneous internal biliary fistula is made by roentgen ray examination or at operation. The roentgen diagnosis of this condition was first made by Hunt and Herbst⁽¹¹⁾ in 1915. The older literature indicates that the diagnosis was seldom made prior to operation. In only 17 per cent of the cases at the Mayo Clinic was the diagnosis known before operation. In the last decade, however, the pre-operative diagnosis of

spontaneous internal biliary fistula is being made much more frequently by the radiologist. Carmen in 1917 reported the first case of biliary fistula demonstrated after the ingestion of a barium meal. The patient had a cholecystoduodenal fistula due to ulceration of a pyloric carcinoma into the gallbladder. Prior to 1937 Riggler and Borman⁽¹²⁾ found that of 267 fistulas only 86 were recognized pre-operatively by the radiologist. In 1942 Garland and Brown⁽⁸⁾ found records of 90 cases of spontaneous biliary fistula in the literature in which the diagnosis was made by x-ray prior to operation.

The roentgen findings of air or gas in the biliary system is pathognomonic of biliary fistula. The reflux of air through an incompetent sphincter of Oddi is an extremely rare occurrence and need not be considered for practical purposes.

The fistulous communication may be well demonstrated during a barium meal examination. One will note the entrance of the barium into the biliary system during fluoroscopy or it will be demonstrated on the films. In cases of suspected cholecystocolic fistula the gallbladder may be filled during the course of a barium enema examination. Use of contrast agents may thus definitely indicate the presence of a fistula.

The disappearance or a change in the position of a previously observed gallstone is additional roentgen evidence that a biliary fistula exists.

COMPLICATIONS

These include cholangitis and hepatitis but the most important complication of spontaneous internal biliary fistula is gallstone ileus. This occurs as a complication of cholecystoduodenal fistula. The obstruction may occur anywhere from the duodenum to the ileo-cecal valve region. The site of the obstruction depends primarily upon the size of the calculus rather than the number. Large calculi can cause obstruction at any level but the most common site is the terminal ileum. Roentgenographically, in addition to the finding of gas or gas in the biliary and hepatic system there will be evidence of small bowel obstruction, characterized by fluid and gas in dilated small bowel loops with little or no gas in the colon, depending upon whether the obstruction is partial or complete. An aberrantly located gallstone will be seen also. The triad of obstructive ileus, gas in the biliary tract and an ectopically located gallstone is pathognomonic of gallstone obstruction. With roentgen evidence of an ileus the ingestion of barium is contraindicated.

Gallstone as a cause of acute intestinal obstruction is not common, the incidence being reported from 1 to 5 per cent. Walters and Snell⁽²²⁾ in 1940 stated that 2 per cent of all mechanical obstructions of the bowel is due to gallstones. Vick⁽²⁰⁾ reported that such obstruction occurred in 47 (1.3 per cent) of 3,625 cases of gallstones and McQueeney⁽¹³⁾ said that it occurred in 149 (2 per cent) of 7,232 cases.

Gallstone ileus has a high mortality. It has been quoted as high as 90 per cent in the literature⁽⁷⁾. In

recent years it has ranged from 30 to 50 per cent. The high mortality is due to the long delay between the onset of the symptoms and surgical intervention. Early diagnosis is therefore essential. In this regard the roentgenologist is of great help. Rigler⁽¹⁰⁾ et al in a study of 14 cases of gallstone obstruction found that roentgen ray examination could have made the diagnosis in 13. Dorr⁽⁵⁾ in his paper presented 8 cases in which the diagnosis was made or suggested prior to surgery or death.

TREATMENT

The best treatment for biliary fistula is prevention by removing the stone-filled gallbladder before complications occur. Treatment of the fistula itself consists of closure of the fistula and cholecystectomy if possible. The age of the patient and general condition influence the surgical procedure. In gallstone ileus prompt surgical intervention is indicated but only after adequate pre-operative treatment, consisting of hydration, restoration of electrolytes and gastro-intestinal intubation with the Miller Abbott tube has been carried out.

CASE REPORT

F. A., a 73-year-old white female, was admitted to the hospital in January 1956 complaining of generalized abdominal pain with nausea and vomiting.

The patient stated that for the past 15 to 20 years she had had frequent episodes of RUQ pain with radiation to the subscapular region. The pain was precipitated by over-eating. There was intolerance to fatty foods. Some of these attacks were severe enough to require morphine. The present attack began about three weeks prior to admission and was more severe than the others and was accompanied by more nausea and vomiting. She had had no bowel movements for six days and had passed no flatus. For 48 hours before admission she had generalized moderately severe abdominal cramps and had vomited green stained non-fecal material. There was no history of fever, chills, jaundice or clay-colored stools.

In her past history the patient stated that on several occasions she has passed some fairly large gallstones by rectum. The patient had Parkinson's disease for the past 5 years.

On physical examination there was slight distension of the abdomen with moderate tenderness over the RUQ but most marked in the RLQ. There was slight tenderness also in the LLQ. There was an ill-defined freely moveable mass about 3 cms. above the umbilicus in the midline.

The laboratory findings were within normal limits.

Roentgen-ray examination of the abdomen revealed air in the biliary tract and in the gallbladder (Fig. 1, 2 and 3). Fluid and gas filled loops of small bowel can be made out with only a small amount of gas visible in the rectum. Two ring-like densities, resembling gallstones, are seen in the left mid abdomen laterally (Fig. 1). In the upright film these densities are overlying the

left ilium (Fig. 2). Calcification is present in the abdominal aorta (Fig. 3). There is a scoliosis of the lumbar spine, convex to the right. The x-ray findings are pathognomonic of internal biliary fistula with gallstone ileus.

At surgery there was considerable distension of the jejunum and upper ileum. A large gallstone about the size of a hen's egg was found completely obstructing the ileum approximately 3 feet from the ileo-cecal valve. Distal to the obstruction there was complete collapse of the bowel. An ileostomy was done. Further exploration was not carried out.

The patient recovered and was discharged home to be followed as an outpatient.

SUMMARY AND CONCLUSIONS

1. A review of the literature indicates that the incidence of biliary fistula has decreased with the removal of the stone-filled gallbladder.
2. Over 90 per cent of biliary fistulas are with the gastro-intestinal tract.
3. The most common fistulous communication is between the gallbladder and the duodenum; next in frequency is between the gallbladder and the colon and lastly between the gallbladder and the stomach.
4. Fistulous tracts involving the common bile duct are rare.



FIGURE 1. Flat film of the abdomen shows gas in the small bowel with no gas visible in the colon except for a small amount in the rectum. Two ring-like densities, resembling gallstones, are seen in the mid abdomen on the left side (see arrows). Arrows in the right upper quadrant point out gas in the common bile duct and gallbladder.

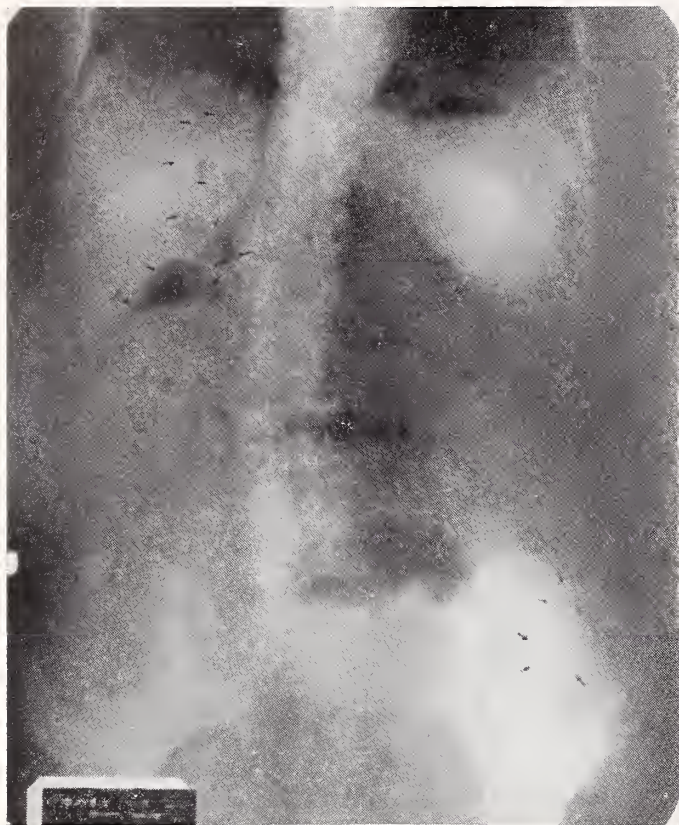


FIGURE 2. Upright film shows gas and fluid in the small bowel. Air in the biliary and hepatic ducts and gallbladder is well demonstrated (see arrows). The gallstones can be made out in the left lower quadrant overlying the ilium (see arrows).



FIGURE 3. Lateral film again shows the air present in the biliary system and gallbladder (see arrows). Calcification is present in the abdominal aorta. Distended loop of small bowel can be made out.

5. Gallstones are the etiological agent in 90 per cent of the cases.
6. Biliary fistula is more common in women in the sixth and seventh decades.
7. There are no specific symptoms.
8. There is a long history of gallbladder disease with repeated bouts of biliary colic.
9. The roentgen findings include (a) the presence of gas or air in the biliary tract and (b) the disappearance or change in position of a previously observed gallstone.
10. Barium studies may clearly demonstrate the fistula.
11. The most common and serious complication is mechanical small bowel obstruction due to an impacted gallstone.
12. Surgery is the treatment of choice.
13. A case of gallstone ileus has been presented.

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The President's Page

SOME time ago, a family discussion brought forth the timely question of our State Sanatoria, and a very interesting idea was expressed.

About three years ago an attempt was made to close two of our TB sanatoria and to centralize the patients at the Central Maine Sanatorium in Fairfield. Due to improved methods of treatment, and great advances in thoracic surgery, the hospital stay is shortened and often eliminated altogether.

The State finds itself under a heavy and unnecessary maintenance expense for hospital space that is being only partly utilized. Could these funds be used to treat other diseases?

How to spend this money usefully, and for public health, is a moot question. During our discussion, it was suggested that the sanatoria, or wings thereof, be converted to the treatment of the indigent or semi-indigent alcoholic. The alcoholic, who is financially independent, has at his disposal a number of private hospitals where he can obtain treatment. The indigent alcoholic usually remains an alcoholic and a handicap to society — although he often expresses the wish to be rehabilitated.

This subject was brought up at our last Council meeting, and was thought to be interesting and timely enough to be referred to our committees on alcoholism and on tuberculosis. We believe however that an enlightened public should be our first objective; that the law-making bodies be alerted, and the matter discussed and evaluated.

If intelligent evaluation shows the facilities to be larger than needed to treat alcoholism alone — other chronic diseases could be added to the program.

ARMAND ALBERT, M.D.

President, Maine Medical Association

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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Across The Desk

Fall Clinical Session of the Maine Medical Association Lewiston November 18, 19, and 20

The Fall Clinical Session of the Maine Medical Association will be held in Lewiston on November 18, 19, and 20, 1956.

The committee in charge of arrangements for this

meeting is planning a program of nationally-known speakers.

A copy of the program will be sent to each member of the Association well in advance of the meeting dates.

Medical Care For Dependents Of Members Of The Armed Forces

The last Congress passed Public Law 569, "to create and maintain high morale throughout the uniformed services by providing an improved and uniform program of medical care for members of the uniformed services and for their dependents." This act provides that wives and children of active duty personnel serving more than sixty days may have civilian hospital care if uniformed facilities cannot provide it or if it is not feasible for them to do so. Veterans' Hospitals are not considered uniformed facilities. This coverage is automatically provided to all service men. This is not an insurance plan and is not related to any premium payment. The government is paying the full cost for these services.

The Council of the Maine Medical Association at

its last meeting designated the Associated Hospital Service of Maine as its administrative and fiscal agent for this program. Actually the program is administered by the Defense Department and they may choose to elect a commercial carrier to handle the program or it may be all done through the Department of the Army.

A series of conferences between the American Medical Association, the State Medical Societies, and the Defense Department have resulted in each state society being asked to name its choice of carrier and administrative agent and to produce a fee schedule for its state. A committee of your Association is now engaged in the task of working out a table of maximum fees to be submitted to the Defense Department for its approval.

Under the Dependent Medical Care Act, care is limited to:

- Acute medical and surgical conditions
- Acute exacerbation of a chronic condition
- Contagious diseases
- Maternity

Hospitals are expected to care for these patients at the semi-private level.

Not provided for:

- Elective surgery
- Home and office calls
- Out-patient care

Treatment of dependents other than wives and children of active duty personnel

Under special consideration comes accident and emergency minor surgery, fractures, or short stay surgery may be treated at home or office, but it must be paid for by the patient who will in turn be reimbursed by the government for the actual, usual expenses over \$15.

It is generally expected that a fee schedule will be established at a rate somewhat higher than our present Blue Shield.

Bangor Physicians Give \$400 To Polio Fund



Left to Right: Robert J. Barrett Jr., M.D., public relations chairman for the Penobscot County Medical Association; James F. O'Connor, chairman of the Penobscot County Chapter, NFIP, and Frederick Emery, M.D., who presented the checks in behalf of the Bangor physicians participating in the program.

The Bangor News of July 19, 1956, carried this story about a group of public-spirited Bangor physicians.

Twenty-one Bangor physicians turned \$400 in government checks over to the Penobscot County Chapter of the National Foundation for Infantile Paralysis Wednesday night. The money was from Federal funds allocated for the injections of the Salk vaccine. Bangor physicians would not accept money for the service but had to take the government checks in order for the program to be carried out. Thus, they took the money

and announced that they would turn their receipts over to the county chapter of the NFIP.

The Bangor physicians are believed to be the only group in the country to donate the money received to the NFIP.

The physicians were paid \$10 an hour by the government for this work and the 21 Bangor Physicians gave 5200 injections to approximately 2600 children who came under the federal program.

Physicians in Bangor who participated in the pro-

gram and turned their checks over to the NFIP were: Drs. Robert J. Barrett, Jr., Nelson P. Blackburn, Donald E. Bridges, Eugene E. Brown, James D. Clement, Jr., Edward L. Curran, John Van Duyn, Clarence Emery, Frederick C. Emery, Richard A. Gaillard, John S. Houlihan, Donald F. MacDonald, Gardiner N. Moulton, Thomas H. Palmer, Hadley Parrot, William A. Pur-

inton, Benjamin L. Shapero, William M. Shubert, Alice J. Shubert, George W. Wood, III, and Arthur N. Lieberman.

Adequate commercial supplies of the Salk vaccine are now in the hands of family physicians in Bangor, according to the local doctors.

The Distribution of Salk Vaccine

Just a year from the time that Federal control over the manufacture, distribution, and the use of vaccine was instituted the Federal Government stepped out of the polio vaccine picture. The Secretary (Folsom) of Health Education and Welfare, made the decision on the advice of retiring Surgeon General Leonard Scheele and the National Advisory Committee on Polio Vaccine.

This action followed an announcement that in July

a total of eighteen states turned back vaccine that had been allocated to them earlier. Seven of them also indicated they wished to decline the next allotment as well. Distribution will be handled through the normal channels and the National Foundation for Infantile Paralysis is conducting an all-out program to encourage private physicians to use the vaccine on all age groups. The Federal Government is continuing its program of grants to states to help finance Salk inoculations.

Another Good Drug Gone Wrong

Rauwolfia Serpentina, at first thought to be extremely non-toxic and harmless, is now felt to be the cause of marked depression and gastric ulceration and hemorrhage when given in doses which were originally recommended as average. The United States Public Health Service in a Bulletin this week recommends that the rauwolfia products be used over prolonged periods in

doses approximately $\frac{1}{4}$ of those originally recommended. Most Pharmaceutical Houses are hastening to comply with the request of the Public Health Service.

It seems to me that this is another example of expert advertising and the folly of eliminating the time factor from our testing techniques.

The American Physician And The World Medical Association

The World Medical Association has become a strong factor in protecting and promoting the professional interests of the medical profession and the cause of world peace.

Now in its 9th year, W.M.A. is a federation of the most representative national medical association in each of 52 nations. These member organizations represent more than 700,000 physicians. The American Medical Association is a leading member of The World Medical Association.

Doctors of medicine the world over cherish the same basic ideals of conduct and the same devotion to the welfare of mankind. The World Medical Association is cultivating the common purposes of the profession. This growing community of interest is a source of strength to the physicians in every land.

Already, by solid accomplishments, The World Medical Association has earned the right to call itself "the international voice of organized medicine." Thanks largely to the United States Committee and similar supporting committees of physicians in other leading nations, W.M.A. has a well-tried constitutional structure,

a small but efficient secretariat, and a tri-lingual journal whose world-wide influence and value to the profession is rapidly growing. The permanent office of the secretariat — which serves both the Association and the United States Committee — is located in the United States.

The membership of the United States Committee has been growing slowly but steadily. In 1955, the Committee reached its first important milestone of growth: a membership of 5,000 American physicians.

Even with this modest membership representing scarcely 3% of American medicine, important achievements have been registered, many of which would have been impossible if the American pharmaceutical and related industries had not consistently marched the financial support given the United States Committee by its physician members.

Last year, 176 members of the United States Committee attended the Ninth General Assembly of The World Medical Association in Vienna. This privilege is available to members of national supporting committees. There is unique inspiration, personal enjoyment

and intellectual stimulus in meeting our colleagues from many lands, and in helping to formulate programs that may have incalculable benefits for the profession, and for the welfare of the world.

The World Medical Association assists traveling physicians by providing them with introductions to colleagues in other countries, by making speaking engagements for them abroad, by acquainting them with visiting doctors from other countries, and, of course, by sending the "World Medical Journal" to members of all national supporting committees.

In 1953, The World Medical Association sponsored the First World Conference on Medical Education, held in London. Representatives from many nations have reported concrete benefits from this epochal meeting in terms of better standards and practices in medical education in their countries. A Second World Conference on Medical Education is now being planned for 1959, to be held in the United States.

Two other World Medical Association accomplishments that have brought great credit to our profession and strengthened its solidarity throughout the world were the promulgation in 1948 of the Declaration of Geneva, comprising a modern re-statement of the Hippocratic Oath, and the adoption in 1949 of an International Code of Medical Ethics.

The activities of W.M.A. in the field of social security are of particular interest to American physicians. They have revealed boldly and unmistakably the physician's inherent and universal need for freedom from third-party interference with the practice of medicine. Such activities should not only fortify but inspire the efforts of American medicine to solve our socio-economic problems without resort to governmental subsidy or control.

On the international stage, The World Medical Association has endeavored to counter efforts of the International Social Security Association and the International Labour Organization to promote state medicine under social security programs. The World Medical Association has earned the respect of the International Labour Organization for its defense of the interests of

medicine against the International Labour Organization Convention for Medical Socialization in 1952. Now The World Medical Association is attempting to wrest from the International Labour Organization the recognized world leadership in the field of occupational medicine.

The World Medical Association has engaged in efforts to protect medical research; to safeguard the National Pharmacopoeias and the rights of individuals discovering new drugs and agents to name them.

The World Medical Association has served the profession by representing it in relation to the World Health Organization — the official health agency of the United Nations. In the attempt by WHO and other agencies to draft an International Code of Medical Law, W.M.A. has insisted that such a code be based upon ethical principles acceptable to the profession.

For all these activities, and for many more which demand our attention, additional funds are needed. Each new member not only contributes his normal membership dues, but, more vitally, he lends his name and influence to the program of the W.M.A. and of its United States Committee.

America's world leadership challenges America's physicians to make the United States Committee a truly impressive and representative body of American physicians.

Every individual physician in the U. S. A. is eligible for membership in the United States Committee. Annual membership dues are \$10.00. The dues for Patron Members are \$100.00 or more. Many of our members regularly make contributions to the U. S. Committee, in addition to their annual dues. All such contributions to the United States Committee of The World Medical Association are tax deductible.

As the international voice of organized medicine, The World Medical Association is speaking for you. It is seeking to promote and protect your interests. You are urgently invited to help these efforts along, by joining the United States Committee, and participating in its work.

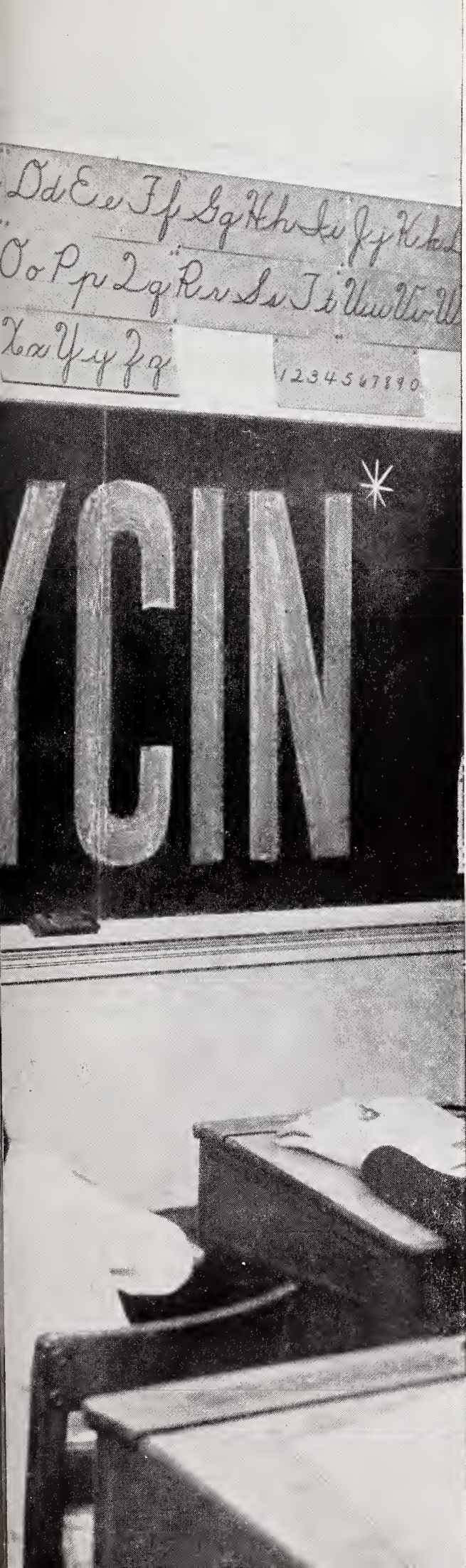
MAPS

THE WORLD



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¹January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.



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DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Your Health—A Community Goal*

KATHERINE OETTINGER, *Dean*
School of Social Work, Boston University

The theme of the conference reflects the philosophy of Rene Sand who declares, "Health can not be given to people; it demands their participation." The purpose of the many medical and other specialists represented at this conference is not to impose a health scheme but to attempt to have the community participate in developing its own health program. To accomplish this there is a growing awareness of the frequently articulated need of a "team approach." This self-help process of community organization commits people to work and plan together to improve conditions. I think it would be safe to assume for the purpose of these meetings that we are all agreed upon the World Health Organization's definition of health as a state of physical, emotional and social well-being.

The dynamic concept of community organization we are thinking today, goes beyond the contribution of the so-called community organization worker to the part played by all professions who are interested in preserving the freedom and improving the character of our democracy where men face changing problems and seek to solve them. In a complex society this helping people re-orient their attitudes towards themselves, others, programs, and problems as they mobilize forces to effect their chosen goals, must be carried on despite the engrossing demand of the particular area of specialization in which each one of us is also engaged.

The present stage of agreement among professional members of the health and welfare community on the fundamental objective of this philosophy involving the rights and responsibility of people to choose their own objective, is being achieved through a conscious learning process. Historically, social workers are emerging from a period of preoccupation with inner conflicts of the

personality and taking a fresh look at the social conditions with which the individual has to contend. But students are still frequently apathetic to courses in community organization which they tend to regard as primarily the responsibility of specialists rather than a central concern of all social workers.

This same identification with the importance of the individual besets such other professions as nursing and medicine. In a current effort to stimulate a more positive attitude toward the community concept, education in schools of social work represents only one of the disciplines in which teaching objectives focus on the common goal of developing community initiative to improve the quality of living for all people. This more comprehensive approach is a first step in assuring that we will make better use of our present scientific knowledge and techniques for dealing with pathology and preventing human misery and disease.

There is mounting evidence from varied quarters that people recognize that individuals are not a passive part of a social order which is subject to impartial action such as gravity of the weather; but that the social order is created by the people who form the whole of society. During 1956 for example, the AFL-CIO and community service conference has issued a history-making report of the first annual meeting. These proceedings state the basic principle that common good refers not alone to the AFL-CIO members, but to all citizens of the community. We are concerned with people because they are human beings not members of labor.

The purpose of community service is to meet the needs of all people, not alone but in concert action with other community groups. The new community service committee focus is on family and community; and one of its major jobs is to help the union work with others to utilize total community forces in advancing health and welfare services, and promote better facilities in

*Abstracted from an address given by Dean Oettinger at the 22nd annual meeting of the New England Health Institute, University of New Hampshire, Durham, N. H., June 12-14, 1956.

the community. Hours and wages alone are not significant if the workers live in a community without recreation, health services and facilities for self-improvement.

If professions are to give constructive leadership let us examine some "know-how" common to all workers who respond to community readiness to change.

The temptation to lecture or explain may be subordinated to the role of helping to clarify the problem; of helping the group determine priorities for action, contributing factual information or reporting experience from other centers.

It is more stimulating to communicate special technical content in such a manner as to encourage people to think, to strive to find out for themselves rather than to receive work from "on high." Other expectations of a team member, helping the community find its way, include the capacity to play the observer-participant role and understand the behavior of group members, to encourage the exchange of views and help the quiet ones express their opinion. All these skills and many others, it seems reasonable to suppose, all workers might display in a community organization setting seeking self-determination. Discussion prepares the way for sound and fully supported conclusions and the out-come is usually far more fruitful than any results achieved by pressure tactics. Through group talk, people come to feel that they have some personal part in what is being decided. People will seldom go back on their decisions. The all too few scientific studies have satisfactorily proved that decision through discussion is likely to lead to action more than through propaganda.

In sharp contrast to these democratic approaches we can observe today, in other parts of the world, settings where "know-how" is limited to the imposition of standards. At a meeting with Melvin Glasser, Assistant to the President, National Foundation for Infantile Paralysis, on his return from Argentina, he reported amazement at the governments baffled response to the people's refusal to accept Salk vaccine during a recent polio outbreak. Helplessly the health authority turned to the police to bring the children into centers for care. Resistance was tremendous. When Mr. Glasser suggested that the school and an educational program might be introduced the authorities looked upon him as a man with a touch of genius. In under-developed areas all over the world we are experiencing unfavorable settings for putting our philosophy of self-help to work.

The playwright or novelist often catches the spirit and nature of the technical point of community planning far more effectively than the expert who seeks to expound the theory. It was encouraging to know that such a play as *The Teahouse of the August Moon* is not only being revived throughout this country but is touring with six companies in other countries of the world. Here is the message of a sergeant who sought to impose ideas and projects in a community where

there was no desire for them. He discovers that a community does not grow under such circumstances and mournfully reports to the military authorities that the small island of people whom he served had had no classes "in the theory of democracy." But he did stay on the island long enough to help them develop capacity and desire to grow and struggle and strive to achieve strength in the conquest of their problems. Similarly in a novel, *A Bell for Adano*, the community itself was involved in determining the nature, method, and pace of change of innovation or reform.

The dynamic picture of change does not affect all communities in the same way. For example, in rural areas the mobility of population creates a quite different problem than the crowded urban areas and the rapidly developing suburbaniana. Only in 1952 the special committee on services to small community of the National Social Welfare Assembly reported that, "the study of the structured service to small communities was one of the most difficult, involved, and important problems in social planning." On the community level in rural areas, traditional patterns of organization have not kept pace with the anticipatory planning and execution common to large urban centers. Seldom do communities reach across town and country boundaries to make joint pacts on common problems. Here in New England where the autonomy of every hamlet is vigorously defended, professional "know-why" may serve to illuminate this insular prejudice. The differences between town and town, grow as metropolitan resources are seldom tied in structurally to rural institutions. If we are to help rural areas move in social inventiveness, in adapting and creating social structures to serve social purposes, we will focus on solid resources to organize communal concern and activity of the farm community.

A few statistics outline the magnitude of the problem of population shift whether the community is rural or urban. The figures can remain meaningless in any local situation unless trends are so highlighted by professional "know-why" to produce public understanding of consequent needs for adjustment and rehabilitation services. Today there are 14½ million citizens over 65 years of age; each day a thousand more are added to this number. Eleven thousand babies are born every day. Today 55 million of the nation's population is under 18 years of age. The increase in total population included in these unproductive years demands new and added enabling health and welfare services.

When social legislation is indicated, it is as important for community groups to become politically minded as for legislators to become socially minded to encourage this action. Many professional workers need to break down their own stereotypes in relation to lawmaking bodies, if they are to stir the thinking of the citizens in this direction.

Democracy will weaken unless ways and means are
(Continued on page 298)

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Rupert O. Clark, M.D. — Wallingford, Pa.

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Charles H. Johnson, M.D. — 17 Second Avenue, Edmundston, N. B.

Tadeusz B. Lach, M.D. — Buffalo General Hospital, 100 High Street, Buffalo, N. Y.

Milton (Ming-deh) Lu, M.D. — Veterans Adm. Hospital, Newington 11, Conn.

Mustafa V. Onat, M.D. — Belchertown State School, Belchertown, Mass.

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Samuel Rideout, M.D. — Fort Fairfield, Maine.

Charles G. Schurman, Jr., M.D. — Maine General Hospital, Portland, Maine.

Albert Shems, M.D. — Central Maine General Hospital, Lewiston, Maine.

John D. Southworth, M.D. — Box 211, Togus, Maine.

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Eji Suyama, M.D. — 105 Stadium Place, Syracuse, N. Y.

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(Continued on page 296)

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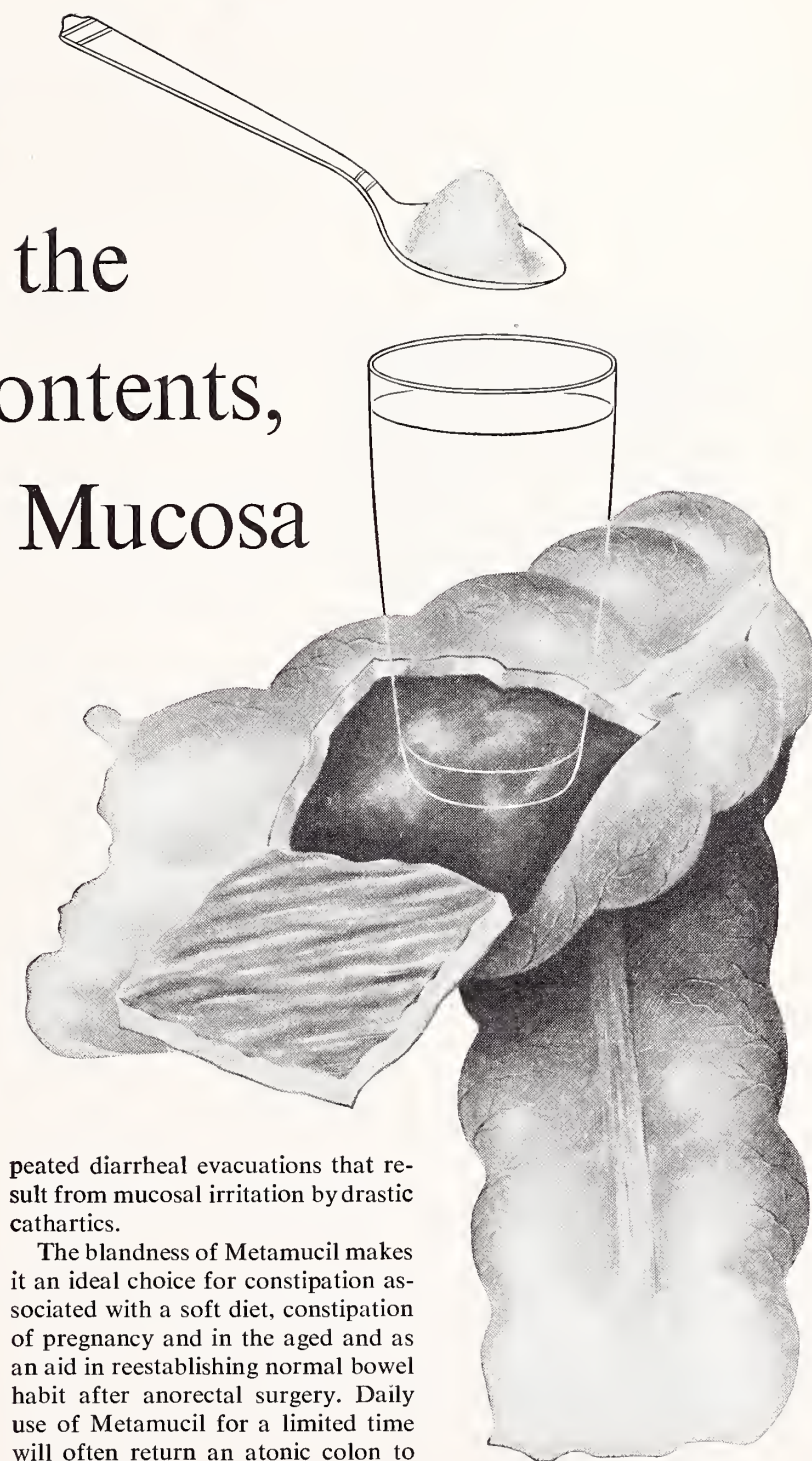
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SEARLE

Necrology

Harold E. Small, M.D.

1886-1956



Harold Ernest Small, M.D., was born in Monroe, Maine, November 27, 1886 and died, after a sudden illness, at St. Joseph Hospital, Orange, Calif., May 17, 1956. He had been a member of our Association for some three years, since coming to Fullerton from the most distant corner of the country, the state of Maine.

He had just concluded one of his happiest days, enjoying his favorite pastime of golf at the Irvine Country Club and watching his wife's successful competition in the women's golf tournament in progress there, followed by a quiet evening in his garden at home. Here he was stricken without warning with what proved, shortly, to be his final illness.

His life, until the later years, was centered in his native state of Maine where his family had settled several generations previously. He attended the Freedom Academy in Freedom, Maine. After a year's premedical work at the University of Vermont, he entered the medical school of that institution and received his M.D. degree in 1915. He then interned for one year at the Burbank General Hospital in Fitchburg, Massachusetts.

Subsequently, at different periods, he took post-graduate work in surgery, including study at the Long Island College

Hospital, New York, in 1921, a seven months' assistantship to Professor Hans Finsterer in Vienna, Austria in 1931 and a period at the Pratt Diagnostic Clinic in Boston, Mass., in 1938.

He worked as surgeon for the Emergency Ship Building Corporation at Stockton Springs, Maine, in 1916-17. Then locating in Fort Fairfield, Maine, he served that small community from 1918 to 1943, when he moved into the larger city of Augusta, Maine, the state capital, to remain until 1953. Coming to Fullerton in January of that year, he at once entered into an active practice and a wholesome participation in the life of the community.

After a few months' association with the late Doctor F. Harold Gobar, he established his own office at 651 West Commonwealth Ave. Here his practice increased to such proportions that he recently took Doctor Sherman E. Baker into partnership. He was a lifelong general practitioner, always with a special interest in surgery.

He was a member of the Orange County Medical Association, the California Medical Association, the American Medical Association since 1916, and a Fellow of the American College of Surgeons since 1924. In Maine, he previously had held membership in the Aroostook County and the Kennebec County Medical Associations, and he was a past president of both organizations. He served a number of terms as a member of the House of Delegates of the Maine Medical Association.

Previously on the staffs of the Fort Fairfield General Hospital and the Augusta General Hospital, he had also been a surgical consultant to the Gardiner General Hospital in Maine. Locally he enjoyed membership on the staffs of the three major private hospitals of the county area. He had served as local surgeon for the Bangor and Aroostook Railroad, the Canadian Pacific Railway, and the Bull Steamship Lines.

He also found time from his busy practice to take a keen interest in outside activities. He transferred his uninterrupted attendance record as a Rotarian to the Fullerton club, likewise his Masonic affiliations to the local Commandery and the Al Malaikah Temple of the Shrine. He was a regular attendant at the First Presbyterian Church. His hobbies included golf, travel and music.

His wife, the former Miss Ruth McCready of Presque Isle, Maine, a graduate nurse from the Children's Hospital in Boston, survives him. She was his constant companion, both in work and in play, and we extend our profound sympathy to her in her sudden bereavement. Likewise, we are sure that his former associates and old friends in Maine join us in this sentiment and in paying final tribute to our departed colleague.

(From The Bulletin of the Orange County Medical Association, Vol. XXV, July, 1956.)

Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

Tuberculosis In Infants And Children

By John S. Chapman, American Review of Tuberculosis, March, 1956.

A review of tuberculosis in the younger age groups calls attention to certain persistent concepts which seem to be either erroneous or ill-founded. It seems advisable here to make preliminary mention of the therapy of certain localized forms of tuberculosis for which the methods of treatment may have to be revised.

The cases studied consist of 101 patients discharged from a pediatric hospital between 1949 and 1955, of whom 56 per cent were less than three years of age when admitted. This group represents a fairly accurate cross-section of the tuberculosis problem in this area.

Admission to the hospital was based upon the demonstration of significant tuberculous disease either in the chest film or upon physical examination. Most of these patients presented clear evidence of clinical illness. Diagnoses were confirmed by biopsy, culture methods or by differential clinical study. Seventy-two patients presented unmistakable pulmonary disease. Eleven of the 34 right-sided lesions were the result of bronchial obstruction, 19 patients presented bilateral infiltrations and cavitation was demonstrable in a considerable number. Tuberculosis pleuritis in eight patients with so called "primary" disease is also noteworthy.

Almost 20 per cent of the children discharged had, in association with other tuberculosis, enlargement of superficial lymph nodes, the diagnosis of which was confirmed by biopsy. In the five children in whom tonsillectomy and adenoidectomy were performed, two were found to have tuberculosis of these tissues.

Children with tuberculous osteoarthritis are usually sent to the orthopedic services and in this series there were only seven children in this category. Two patients who have been treated with protracted courses of isoniazid-PAS are of interest. They had received little fixation, immobilization, or prevention of weight bearing, but one, an infant with tuberculosis of the tibia and knee joint, now has a complete range of motion. The other, a six-year-old Negro boy with severe Pott's disease and a large abscess of the thigh, has little deformity and no residual abscess.

Miliary tuberculosis and tuberculous meningitis have received considerable notice recently. In this series miliary tuberculosis was limited to six children of less than two years. Of the 21 patients with tuberculous meningitis, six had no other demonstrable tuberculous disease. Our findings parallel those of others which indicate that the younger the child, the higher the incidence of meningitis and miliary tuberculosis, and the worse the outlook for recovery.

Approximately two years ago, it was decided to establish a basic drug regimen for all children. This consists of isoniazid, 4 mg. per kg., and PAS, 200 mg. per kg. per day,

with both drugs administered at least one year. In children with either miliary or meningeal infections, the practice had been to increase the dose of isoniazid to 10 mg. per kg. for the first two weeks and to give streptomycin-PAS as well. This triple-drug therapy has been continued for at least 18 months after the cerebrospinal fluid is normal.

For the last four years all children with tuberculosis of the superficial lymph nodes have received radiation therapy in addition to chemotherapy except those whose nodes were completely removed and those who could not be moved to the therapy unit. It is the impression that nodes regressed in size more rapidly with radiation therapy plus drugs than with drugs alone. Radiation therapy has not been used in instances of tuberculosis of mediastinal nodes nor as the sole means of treatment.

The treatment of osseous disease consists of isoniazid-PAS in the basic dosage given above. If abscesses are present, they are drained surgically. Thoracic surgery has been necessary in 3 cases. Two resections were performed for residual cavitation and one for persistently collapsed middle lobe with bronchial disease. The procedures were tolerated very well. No collapse measures have been used.

The most striking difference between this group of sick children and those who have no evidence of tuberculosis other than a positive reaction to tuberculin is the fact that the former usually had had massive and intimate contact. This suggests that in early life the size of the infecting dose is probably of prime importance in development of disease, while the age of the child is the most important determinant of the outcome. The duration of the disease and the condition of the child at the time of hospital admission are also important. Half of the mortality occurred within 30 days of admission. In the future the drug resistance of the tubercle bacilli may prove equally significant.

The widespread distribution of disease in both lungs in 20 percent of this series and the occasional occurrence of tuberculosis in the tonsils would apparently point to several sites of invasion. The possibility of direct invasion through bronchial and bronchiolar walls as well as at the alveolar level has to be recognized. In this series 12 patients exhibited massive mediastinal adenopathy without apparent pulmonary infiltration.

Tuberculosis of the superficial lymph nodes is not infrequent in the early age groups. Tuberculosis of the cervical lymph nodes may be the result of drainage from tonsils. The fact that in some cases the tonsils are not diseased suggests that other routes such as through the paratracheal nodes are important. Present knowledge of lymphatic drainage would tend to incriminate the pleura as the source of infection for the axillary groups.

The repeated occurrence of pulmonary necrosis in what seems to be the sites of invasion, the development of superficial implantation type of bronchitis, and the occurrence of effusions, seem to indicate that any effort to divide tuberculosis into primary and secondary types is essentially meaningless. To one who has been familiar with tuberculosis in adults, the most

*Vol. XXIX, September, 1956, No. 9.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

(Continued on page 296)

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striking differences consist of the location of the disease within the lung, the presence of disease of the mediastinal nodes, the tendency toward hematogenous dissemination, and the rather striking degree of recovery. One feature of generalized tuberculosis in early life is the absence of renal disease. In the present series, in spite of most careful search, no case of renal disease was discovered.

The remarkable outcome of isoniazid therapy in the two cases of osseous tuberculosis calls for a reconsideration of the methods of management. If it is possible to preserve the function of a major joint, such as the knee, and to avoid fixation without jeopardizing the patient's future welfare, it is most advisable to study this more extensively.

Radiation therapy in itself has proved to be quite effective over short-period follow-up in the treatment of superficial lymph nodes. Nevertheless, the young child, in the face of a high probability of dissemination, requires every possible prophylaxis against hematogenous seeding. This can best be accomplished by the use of isoniazid-PAS. The drainage of tuberculous pus and the removal of tuberculous necrotic material whenever it is feasible and safe, is the major desideratum. The treatment chosen consists basically of chemotherapy; to this is added excision of nodes when they are accessible and limited in number, the free drainage of pus when the nodes are fluctuant, and the application of radiation therapy when the nodes are multiple or when palpable masses persist after drainage.

NEWS AND NOTES
(Continued from page 292)

- Lucien F. Veilleux, M.D. — Cambridge City Hospital, Cambridge, Mass.
- Henry R. Viets, M.D. — 20 Chapel Street, Brookline 46, Mass.
- George R. Walker, M.D. — Box 12, East Newport, Maine.
- Laura B. Weed, M.D. — 51 Grove Street, Bangor, Maine.
- Lawrence L. Weed, M.D. — 51 Grove Street, Bangor, Maine.

ANNUAL MEETING
Maine Chapter
American Academy of General Practice
Loring Air Force Base
September 28 and 29, 1956

- PROGRAM
- FRIDAY, SEPTEMBER 28
- Chalet Room, Officers' Mess, Loring Air Force Base
- 1:00 P.M. CLINICAL MEDICAL SESSION
- 1) "Cardiac Arrhythmias," H. Draper Warren, M.D., Caribou
 - 2) "Laboratory Diagnosis of Jaundice," Carroll H. Smith, Jr., M.D., Presque Isle
- INTERMISSION
- 3) "Orthopedic Problems of General Practice," Thomas A. Martin, M.D., Portland
 - 4) Speaker — to be announced
- 6:00 P.M. (Same room) Cocktails (members, guests, wives)
- 7:30 P.M. Dinner (members, guests, wives)
- 9:00 P.M. Annual Meeting of the Maine Chapter, American Academy of General Practice
- SATURDAY, SEPTEMBER 29
- 10:00-12:00 A.M. Tour of Loring Air Force Base starting from lobby of Officers' Mess. To take a look at the main buildings and facilities and B-36's and the recently arrived B-52's.
- 1:00 P.M. Lunch at the San Sevieria Room of the New Log Cabin Restaurant, Record Street, Caribou.

Eastern Psychiatric Research Association, Inc.

This Society will hold its FIRST ANNUAL CONVENTION in New York on Saturday, October 27, 1956, at the Hotel Waldorf Astoria. Registration: 9:00 to 9:30 A.M. (Admission fee for non-members \$2.00). Scientific papers: 9:30 A.M. to 12:30 noon, 2:30 P.M. to 5:00 P.M. Dinner at 6:00 P.M., speaker to be announced. The E.P.R.A. \$100 award will be presented to the author of the best paper delivered at this annual meeting.

A one day seminar on "Various Cerebral Electrotherapies including Anesthesia for same" is planned for the day preceding this convention, Friday, October 26th, at one of the large New York Hospitals. This course will include actual participation in the administration of treatments, by visiting student psychiatrists, after observing a number of cases treated. The fee for this full day course will be \$25.00.

For further information, program, etc., address the Secretary: Theodore R. Robie, M.D., 676 Park Ave., East Orange, New Jersey.

Recent Advances In Cardiovascular Diseases

A course, "Recent Advances in Cardiovascular Diseases," is being held at the Mount Sinai Hospital, New York, October 8th through 12th, 1956, under the auspices of The American College of Physicians. The co-directors will be Arthur M. Master and Charles K. Friedberg. The fees for members of The American College of Physicians will be \$30.00, non-members \$60.00. Registration should be filed with the Executive Secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

The Governor's Committee on Aging

State of Maine

Second Conference And Workshop On Aging

This is an all-day meeting with registration at 9:00 A.M. Conference greetings will be presented by The Honorable Edmund S. Muskie, Governor, State of Maine.

The principal speaker will be Mr. Clark Tibbitts, Chairman, Committee on Aging, Department of Health, Education and Welfare, Washington, D. C.

The afternoon will be devoted to Workshop Sessions on the following subjects: Creative Leisure Time Activity; Positive Attitudes Toward Mental Health; Economic Preparation for Retirement; A Goal for Community Planning and Activity; Physical Fitness in Maturity; Rehabilitation for Self-Care.

For further information write Miss Ruth T. Clough, Department of Health and Welfare, State House, Augusta, Maine.

LETTER TO THE EDITOR

Dear Dr. Hanley:

Just a note. Have another idea which I thought I would write you about.

It concerns the establishment of a medical library with various journals, quarterly cumulative index, medical books and other reference material which physicians might avail themselves of, especially if they are interested in writing articles for medical journals. If this were done, it might in many instances make it unnecessary to go to Boston, in order to look up material and make up a Bibliography, as I have done on several occasions in the past. This library could be located at the office of the Maine Medical Association or at two hospitals, at each end of the state, namely: the Eastern Maine General Hospital in Bangor, and at the new Maine Medical Center in Portland.

Do you think this idea is feasible and practical? It might be an incentive for more physicians to write articles.

Thanking you for past courtesies, I am,

Sincerely,
MELVIN BACON, M.D.
Sanford, Maine

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YOUR HEALTH
(Continued from page 291)

continuously encouraged for the average citizen to have some sense of participation in and control over his changing environment. It is clear that the citizen who does not grapple first-hand with change is subject to unhealthy apathy. We have no ruling leisure class and planning cannot be left to the experts, unless the citizens move further and further away from the point where he has anything effective to say about the conditions under which he will live and work. New insights in the behavioral sciences are concluding this is important not only to democracy but to the mental health needs of the individual that he give his views on the community goals for health and welfare!

Maria Yahoda has stated that the criteria for mental health of an individual rests in active adjustment or attempt at re-making the environment. This is distinct from an ability to adjust and, from indiscriminate or passive acceptance of environmental conditions. Her recent study of individuals in new communities demonstrates that loss of essential human dignity is aggravated by a failure to feel a vital share in the conduct of public affairs.

Agnes E. Meyers laments that people are isolated in our chaotic society. "Individuals are detached from old

ties of family, neighborhood, community relationships of which their characters were forged in earlier days. Yet new allegiances and loyalties have not been created that can give our people a new center of being and a new order of life. As a consequence, individuals are confused and bewildered. They live in a vacuum. They are emotionally unemployed." Her statement is true that a secular Milton could write another epic on community lost and community regained that would touch the hearts of all free men.

Other writers comment that freedom and equality have exaggerated social irresponsibility so that man now deserves the restoration of social instruments to solicit labors of the volunteers who are ready to give to help build a strong sense of community. Thus we move toward a new vitality in the meaning of the word neighborhood, for it will re-establish the relationships and attachments which are the source of deepest human influence and highest human satisfaction.

As our enthusiasm sparks the imagination of the general public for achieving Health — A Community Goal, this process of community planning will foster a more integrated society. By the very act of participation, the people of New England will make an equally significant contribution, continuing a healthy climate in which individual personalities can flourish.

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*References and clinical trial supplies available on request.



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Preparation Of Medical Reports In Personal Injury Cases

JOHN J. BARTON, *Attorney At Law*
Los Angeles, California

This paper is concerned with the proper method of medical reporting of personal injuries by the medical profession, where medical reports are required either by the insurance company or the personal attorney of the injured patient.

The average medical practitioner is aware of the voluminous work requested of him for reports concerning treatments of accident victims. In very few cases the reports can often be completed with minimum of effort. However, this should not be true of injuries sustained in automobile accidents. Nevertheless, the medical profession has relegated the writing of medical reports to an inferior position. This paper is concerned, therefore, with presenting the reasons why medical reports, concerning injury sustained in automobile accidents, should be elevated to a position of prime importance.

GENERAL SCOPE

Without the advent of automobile liability and medical pay insurance, medical reports would not assume the importance they have today. Because of insurance, the demands of the parties who are to be affected by the benefits weigh heavily on the doctors. This writer often wonders if the medical profession as a whole, realizes the importance their reports bear on the outcome of negotiation between the injured party and the insurance company, and even law suits of such parties. Does the medical profession realize, for example, the weight their reports are given by the insurance claims department when a bodily injury claim is presented? This writer is sure that if such were the full realization, meager and incomplete reports would never be submitted. Yet this is not the case. Either from lack of time or interest, the medical profession refuses to render the report a patient is entitled to.

As most doctors know, an injury sustained by a patient due to the negligence of another is compensable to the injured party. In most cases the negligent driver

has liability insurance and therefore a claim will be directed to the insurance company. Once a claim is presented with the insurance company, one may rest assured that the insurance company will be represented by experts in their respective fields. This is only natural since paying or resisting claims is their business and in order to compete these companies must have men thoroughly experienced in their fields. The claimsmen are usually very well versed in medical matters as well as the legal aspect of a claim. Yet if his training or experience is deficient in the medical aspect of the claim, he has merely to call in a trained insurance doctor whose training and experience is to give thorough medical examinations followed equally well by comprehensive written reports.

The claim can be presented either by a patient acting as his own negotiator or represented by counsel who negotiates for him. In the latter event, the status of negotiation becomes more balanced since, against the array of experts of the company, the patient's attorney should be able to negotiate successfully. In either situation the medical report of the doctor and how it is written, will play a predominate role in the negotiation of the claim. Of course the patient should have a just claim to begin with. But all things being equal a well reported injury will be worth considerably more than an injury of the same type poorly reported. This is so because the claims man of the insurance company relies so heavily on what the medical report shows. He may never see the patient and in most cases, the person in charge, the claims manager, who finally decides the value of a case, never sees the injured party. His only evidence of the nature of the injury is the medical report. This to him is the person. Because this is so, the medical report should reflect the entire person as much as possible. It should be a "word-picture" of the injured party. How much more effective could medical reports be if the injured party could be presented to the claims man and the doctor could explain the injuries in detail in person. However, the conditions of our modern society do not permit this. None of the parties involved have the time. Therefore, the only other solution is the written medical report. The doctor should therefore keep in mind when he is writing the report that he owes his patient the duty of reporting the picture accurately. Accuracy means thoroughness. The patient's case cannot be presented properly unless there is a complete word picture, of not only the injury, but the patient himself.

Other than oral reports of an injury, which are not practical, there are only two methods of submitting written reports. These are the "form report" and the "narrative report." Let us examine the merits of each separately.

FORM REPORT

A form report is usually a one-page affair on which a doctor is asked to record all he has observed concern-

ing his patient. In effect, it is expected that the doctor can give a true "word-picture" of his patient by this means. The shocking shortcomings of this method are all too obvious. The only benefit this writer can see in the use of this method is that it saves the doctor and the insurance company time. Yet, the doctor has a greater duty to his patient than he does to himself. The doctor should always keep in mind that this form was prepared by the insurance company and not by his patient.

A sample form usually contains space for information about the patient; such as: name, address, sex occupation and place of employment. There is a small area provided for history, x-ray report, diagnosis, contributing factors and prognosis. Does the examining doctor, after completing this type report, honestly believe he has given a full "word-picture" of his patient and the patient's condition? Let us examine this method of reporting and see if it does or does not meet the test of giving the complete "word-picture."

How many doctors can rightfully report the x-ray findings within a space 1" wide and 6" long as provided by the form report? If this were the case, the roentgenologist would be remiss in his report to the attending physician. Such, however, is not the case. The roentgenologists whose reports this writer has seen are the most thorough of medical reports. Their reports of x-rays taken, whether there be injury or not, will invariably constitute a full page. The entire report of the roentgenologist should be incorporated in the attending physician's report, since it constitutes a major portion of the "word-picture" of the patient. To give the conclusion only, is to fail the patient in presenting this complete "word-picture." How incomplete the form report is can nowhere be better illustrated than in reporting the x-ray findings.

All doctors realize that when a patient comes to them with a history of an injury, the doctor owes the patient a duty of making a thorough examination. How can an examination be thorough if the doctor uses the form supplied by the insurance companies as a guide? Even though the doctor may not use the form as a guide in examination and treatment, he does so when writing the report on the form.

It is this writer's belief that the doctor usually conducts a very thorough examination but that when he tries to record what he has observed of the patient onto the form, finding the form inadequate, he nevertheless proceeds to use the form and to answer the questions as contained in the form, expecting that the claims examiner will use his imagination as to the details left out. But oh, what limited imaginations the claims men have when it comes to the nature and extent of injuries. If any imagination they do have, it manifests itself in believing that even the slim report by the attending physician is an over-statement of the injury.

What of the patient's history of the accident. Has there been an examination of his head even though no

complaint of head injury has been made. Yet the doctor owes his patient the duty of examining the patient's head to be sure that there is no injury to this part of the body. Yet the form makes no provision for this. Undoubtedly, the doctor makes this examination as a matter of good practice; but in using the form, he fails to make this known, unless he does find an injury. Reference should be made that the head was examined, even though no injury was located. This information is a vital part of the "word-picture" of the patient.

The same can be said of the skin, eyes, teeth, tonsils, throat, thyroid, heart, blood pressure, lungs, abdomen, genito-urinary, extremities, neurology and spine. Without some discussion of these, how can a doctor expect a claims man to get a full "word-picture" of the patient. In fact, how can the doctor expect anyone to believe that a thorough examination has been given, if the same is not reported. The form is inadequate to meet these demands of good medical practices. Keep in mind that a doctor employed by the insurance company would not remain in their employment long if they submitted reports on these forms. Do you owe your patients any less service because he is not an insurance company. Of course, you don't. These forms were designed by the insurance company but they need not be used by the attending physician and in fact, to so use them, is in this writer's opinion, evidence of either poor examination or lack of understanding by the attending physician.

How many doctors can diagnose a personal injury without knowing something about the facts of the accident. It is not intended the doctor know the technical facts, but he should learn, in order to facilitate his diagnosis, the nature of the impact, i.e., was the patient seated behind the wheel or where was he so seated. This is important as it may indicate the area of the injury and its extent. Also, the doctor must, and should, ascertain the method the patient was thrown about. It is readily recognized, for example, the patient's injuries and subjective complaints will usually be different if he were thrown to the pavement than if he were thrown onto a lawn. If he were not thrown from the car, then it is important to know what part of his body came in contact with what part of the car. The form is glaringly inadequate to cover sufficiently in detail this important aspect of the case. True, the doctor may have covered in detail these questions, but he failed to report them since the form did not provide the space. But how incomplete is the "word-picture" of the patient the claims man sees when he reads a report lacking this information: thus denying the patient the compensation he was otherwise entitled to.

Nor does the form provide any space to describe the type or locale of pain. The type and nature of treatments are also important for they bear directly on the important subject of pain and suffering.

At this point the doctor may question the importance of pain and suffering. Its importance being that the injured party is entitled to compensation for pain and

suffering as a part of the total settlement. Although the doctor cannot accurately know what the pain and suffering are, from his training and experience he knows the comparative aspects of pain and suffering. He knows that certain injuries are more painful than others. He should record this observation together with the subjective complaints of the patient. Only by doing this does the doctor add to the complete "word-picture" of his patient. Only in doing this does he help in reporting the true value of his patient's case. The form makes no provisions for this important aspect of the total "word-picture."

Where there is injury of a permanent nature the medical form becomes glaringly inappropriate. Any doctor who has completed forms for the industrial commission knows that a statement by the attending physician as to permanent disability must be backed by reported facts. So in auto accidents, the reporting physician must be thorough in order that the client obtain just compensation. Take for example a fractured leg; if there is residual permanent disability, the report should show this, not in general terms, but specifically as to a percentage and what the percentage is based on. If it is based on limitation of motion it should be so stated. Should there be muscle atrophy, not only should this be shown but the method used to determine muscle atrophy described. As to the determination of muscle atrophy, this writer knows of an experience in a case that might well illustrate the entire problem.

The attending physician for the injured party had testified that the plaintiff had muscle atrophy. He stated he based his conclusion on the fact that the measurement and observation of the muscle (it was one of the main back muscles) in the back was lower down than the corresponding muscle on the other side that had not been injured. The doctor for the insurance company, being much more experienced in these matters gave a devastating rebuttal, admonishing the male members of the jury, that as they well knew one of their testicles hung lower than did the other and that this phenomena was true throughout the body. The jury grasped the point immediately and as a result the injured plaintiff and his doctor learned an expensive lesson. How much more effective would have been the attending physician's testimony if he had used a sounder method of reporting this injury, such as describing the muscle tone or some other such method. What I am trying to say is that the doctor should, in reporting, have painted an active "word-picture," and in fact, accepted a leaf from the insurance doctor by adding color (descriptive) to his report. This factor alone, in many cases is the difference between settling a claim and trying the case. It is submitted that an injury of this nature could never have been so graphically described on the form report.

The medical form contains space for prognosis. To this writer a prognosis is merely a calculated guess. In few types of injuries, and very few, a prognosis can be

given with some degree of accuracy. But this is more the exception, in personal injury cases, than the rule.

Because the guess of the attending physician could be detrimental to the patient's subsequent negotiations, it is submitted that the doctor use this mode of approach sparingly. A flat assertion as to the prognosis made early can prove very embarrassing to the doctor and costly to the client should the injury prove of greater duration than was expected.

The medical report forms are submitted by the insurance companies for a number of reasons. The forms are sent out in the hope of getting the earliest possible report in order that the insurance company post a reserve. This reserve is a figure within which the insurance companies hope to settle the case. If the medical report is poorly written, the reserve may well reflect this by being lower than the case value really is. However, if the report is thorough and accurate, the reserve will better reflect the true value of the case. Insurance companies will rarely settle a case above the reserve posted. It is true that some companies will adjust their reserves, but this is done only because the first reserve posted was estimated without the medical report. Not only is this form used as a means to gauge the potential exposure of the insurance company, but the medical report will divulge much information that may not be to the client's best interest at the time to divulge. Of course, the insurance company has the medical man on the spot with an early report and if his later report does not reflect consistency with the first report, this factor will be used as an arguing point in the negotiation of the claim and in fact be used in cross-examining the doctor should the matter be tried.

A brief discussion of the medical form as concerns the medical pay provision of the policy. Many doctors are in some sort of hurry to get a medical report form in to the company when there is medical pay coverage involved. They know that their medical bill will be paid promptly. Yet do they know that this same medical report may well find its way into the hands of the insurance company representing the third party. Many companies pass these reports around without the patient's consent. Because this medical information is confidential communication, I never permit an examining physician to send in a medical report to the medical pay company until I have settled the bodily injury with the company representing the negligent driver. Nearly all attorneys will protect the doctors on their bills, so why rush to divulge this information. Nor will the patient's rights be jeopardized as to his rights under the medical pay provisions of the policy; threats of the insurance adjuster notwithstanding.

In speaking of negotiations, I am sure it would be quite an experience if a doctor could sit in and listen to the negotiations conducted between an attorney and a claims adjuster. I am confident the doctor would soon learn the importance his report plays in the discussion. In fact, because the report does play such a vital role

in negotiations, the better personal injury attorneys rarely permit the claims adjuster the opportunity to read the report; in fact, they read the report to the adjuster and never relinquish a copy until the case is settled. This is done for the reasons above explained; namely that the adjuster will pick the report apart and argue about the most unequivocal parts. The doctor should keep in mind that negotiations of a personal injury case are a dress rehearsal of the actual trial of the case, but with no holds barred except good deportment and proprietorship of language, which occasionally gives way to emotion.

As an example of the misuse of prognosis, the ordinary neck injury arising out of the so-called whip lash effect, lends itself readily to discussion. In many of these cases, there may be some latent injury, yet the doctor may feel that these are only subjective complaints and therefore give a very optimistic prognosis that the patient should recover at a very early date. It becomes very difficult for the patient or his attorney to convince the insurance company, should his pain continue beyond the prognosis submitted by his attending physician. In fact, it becomes almost impossible once the patient has been examined by the insurance company doctor, who invariably, and I dare say through force of habit, finds only subjective complaints.

It is better policy from the patient's standpoint, to forego any statement about prognosis, and use this only when treatments to the patient are nearing an end. Of course, if the patient is fully recovered the doctor must so state. Yet many examining physicians rightfully hedge, even at this late stage, so that they will not be caught short should the patient have a relapse. Many of the experienced doctors, that is those who write reports for plaintiff's attorneys, skip this heading entirely and close their reports under any one of a number of headings: such as, "Comments," "Conclusions" or "Analysis." But more on this in the discussion of narrative reports.

Another reason that the insurance companies seek these reports at an early date is to learn whether the persons should be examined by the insurance company doctor. I am not saying that the insurance company is not entitled to an examination. But it should be remembered that the insurance company will pay for the report and because of this the report will not and can not be free of bias. This bias usually works to the disadvantage of the patient. The question of when a client should be permitted to be examined by the insurance company doctor is one in which many personal injury attorneys are in disagreement. I think that it depends upon the nature of the injury, the experience had with that particular insurance company in past claims negotiations and the stage of the treatments.

Where, however, the form must be used, and this will usually happen where the patient is not represented by counsel, then the doctor should not go out on a limb in completing the form. He has a right to, and in fact a

duty to reserve judgment. It is this writer's belief that even where that patient is not represented, the doctor owes his patient the duty of submitting a final report in narrative form. Because of this, the doctor should be extremely conservative when completing the preliminary form report, if he desires to submit such report.

NARRATIVE REPORT

One of the commonest heard complaints of doctors concerning the narrative report is that it is time consuming. What the doctor really means is that it is effort exerted without compensation. But need this be the case? Most good plaintiff attorneys will gladly pay a nominal fee for a good report. This is in addition to the regular charge for the treatments. This is a valid charge and the doctor is entitled to this fee for his time. A good narrative report may take as much as one hour of the doctor's time. His time and knowledge expended in completing this report are readily worth the charge. It is very rarely, if seldom, that an insurance company doctor will charge less than \$25.00 for a report. So too, the injured patient's attending physician is rightfully entitled to a charge of like amount for a thorough narrative report.

Where the patient does not have an attorney, the doctor cannot expect the patient to react favorably to such charge, since the patient seldom realizes the service the doctor would be rendering him in submitting such report. Where an attorney asks for such report, the doctor should reach an understanding with the attorney first as to the charge for such report. The charge, of course, will depend upon the time spent in preparing the report and the time spent is usually related to the seriousness of the injury.

A narrative report should be broken down into sub-headings. I have seen narrative reports run three or four pages without sub-headings. This proves both burdensome and difficult to the attorney and the insurance company when they attempt to reach some decision as to the value of the case. A report with sub-headings also gives the attending physician a guide when dictating his report so that he will cover all phases of his examination and treatment of the patient.

There is no set pattern for these sub-headings. However, sub-headings should be used which will bring out a true "word-picture" of the patient, of his injuries, of his pain and suffering and of his treatment and permanent disability, if any, and possible time off to recuperate. The topical outline should be flexible enough to cover any type of injury. If it is not, the doctor should be ready to vary the outline to meet the specific needs. As a suggestion only, the outline must contain the following headings:

- 1. Statement of the injured covering briefly the facts of the accident.
- 2. Past history of injury and sickness.
- 3. Visual characteristics of patient's overall character-

istics: a) height b) weight c) sex d) age e) general physical appearance f) general mental response.

- 4. Head
- 5. Skin
- 6. Eyes
- 7. Teeth
- 8. Tonsils
- 9. Throat
- 10. Thyroid
- 11. Heart
- 12. Blood Pressure and Blood Count
- 13. Lungs
- 14. Abdomen
- 15. Genito-Urinary
- 16. Extremities
- 17. Neurology
- 18. Spine
- 19. X-ray
 - a) Verbatim transcript of the report submitted by the Roentgenologist
 - b) Roentgenologist's conclusions
 - c) Attending physician's explanation of these comments and any further comments of his own.
- 20. Diagnosis (Break down into component parts and show how each relate to the other.)
- 21. Analysis, Comment or General Conclusions (This heading in lieu of prognosis.) It should include any time off from work.

Most of these sub-headings are self-explanatory. Most doctors will readily understand the reasons for examination of the particular parts and their relative importance. It is not this author's place to discuss why and what will be gained by conducting the examination above. All doctors will readily understand why a blood count should be taken. As they know, a change in the blood count in an injured victim can tell much about the condition. It can show internal injuries and also infections that may not show up in a visual examination. So too, might the other tests recommended. These tests and examinations are not time consuming, and by performing them on the injured party, the doctor is only rendering the type of service his patient is entitled to. Any good medical book on personal injuries will point out the reasons for the above suggested examination and what can be determined of the patient's condition by such examination. If the examination of the respective parts are normal or if any of the tests are neutral, the doctor should so state under the heading. This is an indication that the examination was conducted and should satisfy all concerned.

Among other matters, the doctor should discuss, in the "Conclusion" heading the amount of total time the patient will be disabled and unable to work and if there be any temporary disability the total time should be recorded. This aspect of the report is very important, for should the patient be unable to continue employ-

Continued on page 309

Surgical Correction of the Abnormally Large Female Breast

JOHN VAN DUYN, M.D.

Bangor, Maine

The correction of the abnormally large or sagging female breast is as much appreciated by the patient as almost any other operation in plastic surgery. There are several types that may be benefited by surgical correction.

The common type of breast enlargement (macromastia) is bilateral and occurs with or without excessive sagging. It is usually seen in the third through fifth decades. In these cases a large proportion of the increase in size is made up of fibro-fatty tissue.

In patients under 20, enlargement is usually due to virginal hypertrophy which may be unilateral as well as bilateral. This condition is due to faulty end organ function and hence endocrine therapy is unsuccessful.⁽¹⁾ In virginal hypertrophy the breast tissue itself appears to have an abnormal sensitivity to a normal amount of circulating hormone. Surgical correction is the only known treatment. Virginal hypertrophy must not be confused with the 'adipose breast' found in pituitary dysfunction, which is always bilateral and associated with an increase of fat about the hips.

Rarely a type of breast enlargement called gravid hypertrophy occurs during pregnancy, in which the breasts become gigantic.⁽²⁾ This condition is similar to virginal hypertrophy in that here again the end organ is at fault.

Pendulous or sagging breasts even without enlargement may constitute an embarrassing disfigurement which also justifies surgery.

In chronic adenocystic disease of the breast, and occasionally in mastodynia with or without demonstrable mastitis, total or subtotal resection of the mammary gland is sometimes indicated. Following this operation the normal contour of the breast can be fairly well restored by the use of neighboring dermo-fat flaps.⁽³⁾

For the plastic correction of the abnormally enlarged and/or pendulous breast there are two main types of reconstructive operations. In one, the transposition operation, the breast is raised up to a higher level on the chest wall with its nipple still attached and the size of the breast is then reduced at the same or a second stage.⁽⁴⁻¹⁰⁾ Following this type of operation, the patient can lactate normally in most of the cases, and sensation to the nipple usually remains fully intact. However, there are certain disadvantages which become more serious the larger the breast.

Not only are the operations longer in the transposition operation than in the second type, the free transplant operation, and sometimes require a second stage, but complications such as necrosis of nipples and skin flaps appear more likely to occur.⁽⁹⁾

In the second type, the free transplant operation, after excision of the excess breast tissue and shaping of the new breast the nipple is transplanted as a free graft. This operation had previously been tried by a number of surgeons (see references in Maliniak's articles),⁽⁴⁾ but did not become popular until after Adams' report in 1944.⁽¹¹⁾ Besides the advantage of less interference with blood supply this type of operation permits the shaping of the new breast before the nipple site need be chosen.

The reason that there is less danger of necrosis to skin flaps in the free transplant operation, is because the anterior skin flap is not separated from the underlying attached breast as is necessary in the transposition type. A good blood supply to the anterior skin flap is especially important in the free transplant type as the nipple is to be grafted to this flap and only a few centimeters above its edge. The disadvantages of this procedure are that the lactating function of the breast is thereby lost and most if not all of the erotic sensitivity of the nipple and areola.

The technic of the free nipple transplant operation is described and illustrated below.

OPERATIVE TECHNIC FOR PARTIAL MASTECTOMY WITH FREE TRANSPLANTATION OF NIPPLE AND AREOLA

The following procedure is based on the work of other surgeons.^(11,12,8,9) Upon starting the operation, it is well to have two pints of blood at hand, one to be given during the operation, and the other to be held in reserve. After the patient has been prepared and draped, and the general anesthesia started (usually of Sodium Pentothal with an intratracheal tube in place), the patient's trunk is raised to a semi-sitting position and the operation planned. First the amount of reduction to be carried out is estimated, then the nipple site chosen.

With the patient's trunk partially raised and the breast hanging down naturally a line is marked running upward from the nipple to approximately the middle of the clavicle on the same side. This line

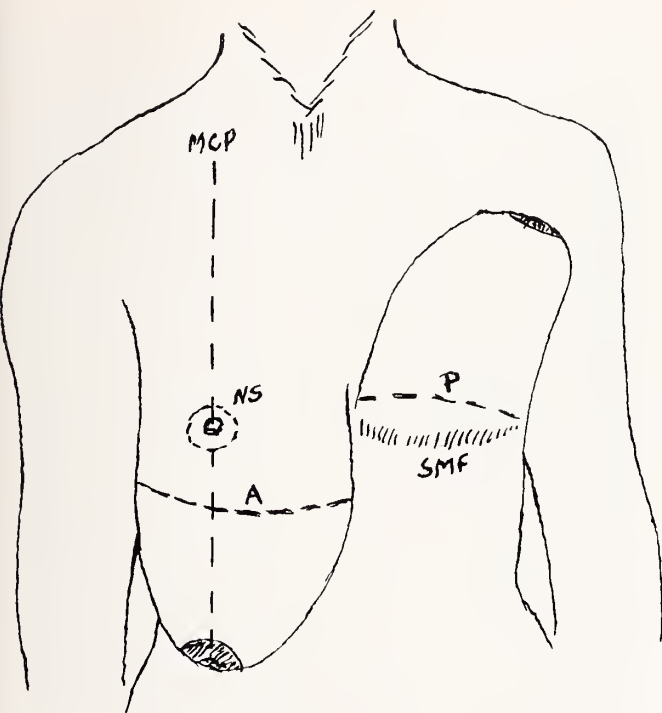


Fig. 1

Plan for Mammoplasty

- MCP: Midclavicular point
- NS: Nipple site
- SMF: Submammary fold
- A: Line for anterior flap
- P: Line for posterior flap

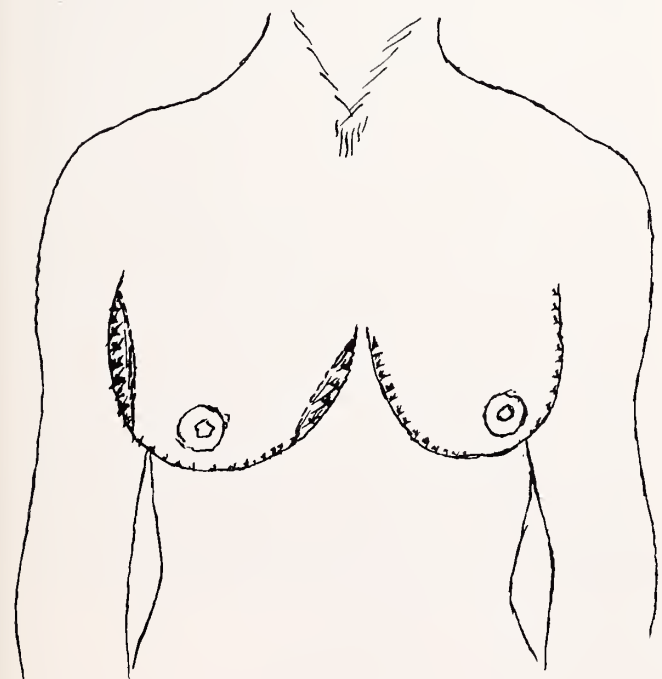


Fig. 2

Excision of ellipses of skin

should split the cone of the breast into two equal halves. The future nipple site is on this line and as pointed out by Hanrahan, it should be at the apex of the future breast cone.⁽⁸⁾ This apical point is lower on the breast than often realized and usually but a few centimeters above the anterior flap (Figure 1).

After marking in the nearly vertical future nipple line, the length of the anterior flap is estimated by picking up the breast, locating the inframammary fold and considering what size breast will best fit the figure and at the same time the wishes of the patient. A curved line, convexly downward, is marked on the anterior breast wall over the inframammary fold beneath, but three or four centimeters below its level. This incision will result in excess tissue on both sides of the breast, but it is better to correct this redundancy later by elliptical incisions (see below). The line of the posterior flap is found by raising the breast and making the posterior surface in a line curved convexly upward (with the breast raised), 2 or 3 centimeters distal to the fold (Figure 1). (Conway puts an extra prominence at the center of this line.⁽⁹⁾)

The patient can now be restored to a supine position. Before making the incisions and resecting the breast itself, the nipples should be removed as grafts of nearly full thickness and laid to one side in gauze sponges moistened with saline. It is easier to dissect the nipples and areolae at the proper depth if they are left attached to their blood supply. If they are cut too thick there may be central necrosis, if too thin there will be less chance for restoration of erectile power and possibly normal sensation. A satisfactory diameter for the nipple and areola is 3 to 4 centimeters. (Adams cuts the grafts extra deep under the nipple itself so as to secure more smooth muscle tissue.⁽¹¹⁾)

Next the incisions are made following the anterior and posterior curved lines previously marked in, and the excess skin and breast tissue removed. In shaping the new breast, which is the next step, a sufficient amount of additional breast tissue must be removed to permit a closure of the skin which will give the right amount of fullness without undue tension. Trimming of the excess skin should be made from the posterior flap preferably, but not so much as to encroach upon the normal inframammary fold. A tentative row of sutures or towel clips is put in to join the anterior and posterior flaps, and now the sides of the new breast will be found to need adjustment as mentioned above. This is done by excising the indicated ellipses of skin together with attached underlying breast tissue from the lateral and medial ends of each suture line (Figure 2). This adjustment should be done as much as possible on the lateral side so as to avoid medial incisions which will be visible in a low neck dress.

The skin flaps are sutured in two layers, first a subcutaneous row of interrupted 0000 cotton sutures, then a row of interrupted skin sutures of 000 Dermalon. In the skin itself plain through and through sutures are

alternated with vertical mattress sutures. A rubber tissue drain is inserted in the lateral end of each suture line to be removed in 24 to 48 hours.

The exact site for the nipple is now selected. It is on the nearly vertical line previously marked and at the apex of the future breast, the level being usually 3 to 6 centimeters above the edge of the anterior flap. The area of the new nipple site is held firmly by an assistant and a circle of the superficial layer of the skin shaved off with a graft knife or razor blade. The depth should be well into the dermis, but not through it, some 14 to 18/1000". Blood should appear from points quite close together.

The nipple grafts which were set aside are now sutured into place over the area of raw dermis with 0000 Dermalon and stented with pieces of wet cotton over a layer of fine mesh gauze. The ends of the square of fine mesh gauze are folded over the circle of compressed wet cotton to hold it to the outline of the areola. The stent is held in place by tying over it five or six additional sutures of 000 Dermalon placed in the skin wide of the areolar edge. It is better to put the stent-holding sutures outside the areolar edge.⁽¹²⁾ The graft is less apt to be disturbed on removing the stents.

Strips of vaseline or Aureomycin gauze or "Telfa" are placed over the breast suture lines and a combination pressure and supportive dressing applied. Gauze fluffs or mechanic's waste, followed by 'burn' rolls or sheet wadding and Elastoplast or Ace bandages are satisfactory.

The rubber drains are removed in 24 to 48 hours, and the first dressing done in six days. At this time the sutures supporting the stent are removed but the stent itself is left in place and the graft beneath is not disturbed. The mattress sutures are removed from the suture lines of the new breasts but the plain through and through sutures are left alone for another two or three days. On the 8th or 9th postoperative day the dressings are again changed and the remaining sutures removed from both the nipple grafts and the horizontal suture lines. A pressure dressing is reapplied to the nipple areas and held in place by adhesive straps, the suture lines are reinforced by cotton-collodion straps which are left alone for four more days. Support to the breast in the form of Elastoplast, Ace bandage or a padded well-fitting brassiere is maintained for four to six weeks postoperatively.

CASE REPORTS

CASE 1: A 48-year-old housewife, was admitted to St. Joseph's Hospital Bangor, September 7, 1955, operated upon on September 8, and discharged on September 15.

She complained of having had "heavy, uncomfortable breasts" since the age of 20 and of having suffered almost constant embarrassment from them. Four subsequent pregnancies with one living child brought about more sagging and some increase in the size and weight of the breasts.

Examination revealed a middle aged, well preserved woman of average height and build, and in good health. For degree of breast enlargement and sagging see pre-operative photographs of Case No. 1.

Operation was performed as outlined above in section on technic. A minor though interesting complication consisted in the thrombosis of a superficial vein running downward a short distance from the lateral end of the incision line of the left breast. It appeared in the 6th postoperative week as a slightly tender "cord" beneath the skin and lasted four days.

The pathological report from the laboratory of the Eastern Maine General Hospital on the breast tissue removed was "Adipose breast tissue showing diffuse fibrosis. No evidence of malignancy."

The postoperative photographs show the results three months after operation. The patient was well pleased. At this time touch sensation had returned to the skin of the nipples, but not erotic. Erectile power may have been present but was not observed.

CASE NO. 2: A 45-year-old widow, was admitted to St. Joseph's Hospital, Bangor, on October 23, 1955, operated upon on October 24 and discharged on October 30.

She complained of having had large breasts for 16 years which were steadily getting larger. Her shoulder straps cut in deeply, causing pain. The excessive weight of the breasts caused her extreme fatigue by the end of the day. She was regularly employed at an occupation requiring frequent bending over, and her efficiency was decidedly impaired because of the large breasts.

There had been four pregnancies resulting in three living children. The last two had been breast fed. In addition there was a moderate obesity and allergic rhinitis. She had had a tonsillectomy, an appendectomy and a cholecystectomy before the age of 18. Five years ago a panhysterectomy had been performed for "tumors."

Examination showed a middle aged woman of average height and moderately obese (weight 180 pounds). Her general state of health was good. In spite of the considerable obesity the breasts appeared disproportionately large. (See preoperative photographs of Case No. 2). It was thought that this patient would be far more likely to follow a weight reducing diet if she were more satisfied with her appearance and less uncomfortable at her work.

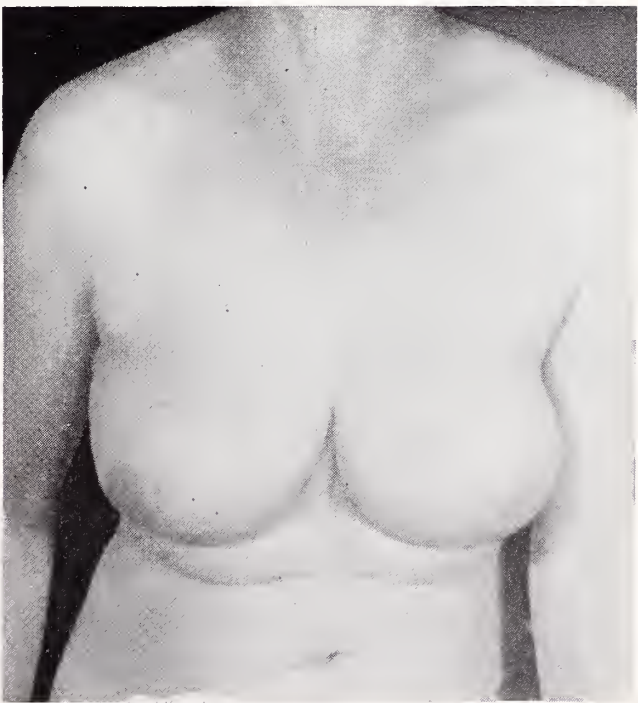
The operation was performed as already outlined except that the nipples were cut slightly thicker than in Case No. 1. The tissue removed from each breast weighed four pounds.

At the first dressing on the 6th postoperative day a slight discoloration was noted at the center of each nipple. Subsequently there was crusting in these areas but the necrosis remained superficial. (See photographs of Case No. 2.)

The pathological report was: "Bilateral hypertrophy of breasts. No evidence of malignancy." The patient



Case No. 1: Preoperative and three months postoperative photographs. Side View.



Case No. 1: Preoperative and three months postoperative photographs. Front View.



Case No. 2: Preoperative and seven weeks postoperative photographs. Front View.



Case No. 2: Preoperative and seven weeks postoperative photographs. Side View.

expressed herself as well satisfied with the outcome of the operation.

When she was last seen, seven weeks postoperatively, there was still no return of sensation or erectility to the nipples.

CONCLUSIONS

There are two main types of plastic operations that have proved satisfactory in the relief of the abnormally large and/or sagging female breast. One is

the transposition operation in which the breast with nipple still attached is freed from the surrounding skin and raised to a higher level on the chest wall. In this procedure, the function of lactation is usually preserved.

The other is the free transplant operation in which the nipple is removed from the breast as a free graft, and after the breast itself has been reduced in size and reshaped, transplanted to a new site. The technic of the second procedure is described in this paper.

It is felt that unless the patient is young and the

preservation of the function of lactation desirable, the free transplant operation is the one of choice. It is technically simpler, takes less time and is subject to fewer complications. There is little to choose between the final appearance in the two types.

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PREPARATION OF MEDICAL REPORTS IN
PERSONAL INJURY CASES

Continued from page 303

ment without the doctor's confirmation, most insurance companies, and rightfully so, will make no allowance for the medically unverified loss of earnings. Also in this same section, the doctor should make some estimate of the future medical bill, together with a statment of the bill to date. In line with bills, nearly all attorneys will agree to protect the doctor on his bill from the final settlement. Where, however, there is no attorney on the case, the doctor should have the patient sign a lien form and this should be sent to the insurance company by registered mail. Where the patient will not or through an oversight has not signed, the doctor should still put the insurance company on notice that the medical bill is outstanding. Although the insurance companies need not honor this request, many of them will do this as a matter of courtesy.

While talking about medical bills, many doctors will send the medical bill to the insurance company without the patient's or the attorney's consent. It is felt that this

bill is just as much a part of the confidential communication between patient and doctor as is the report. It is this writer's belief that the doctor direct the insurance company to the patient's attorney, in the absence of written authorization to so divulge this information. Too often the doctor discusses other matters in the bill besides the cost of treatments. Even if this is not the case, the bill should remain a part of the confidential report.

In conclusion, when there is an attorney in the picture, the doctor should feel free to consult with the attorney concerning the form of the medical report, since the attorney can often offer many good suggestions. This is both proper and ethical since the way the report is written may very well determine the outcome of the claim.

If this article has given some helpful hints on writing medical reports concerning personal injuries, then it has fulfilled its purpose.

Dermatological Evaluation Of Skin Lotions*

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Several factors are involved in the development of "dry skin" which is frequently present in both men and women, especially during the winter season. In recent years, the use of detergent preparations in the home has furnished an additional factor to those already established causes, such as atmosphere, cold and exposure.^{1,2} Many clinical agents used for cleaning purposes can also be implicated. With the increased incidence of dry skin, there has been a proportionate increase in cosmetic preparations designed to prevent or alleviate this condition.

Various preventive and therapeutic approaches have been made, generally on the basis of restoring or increasing the lipid content of the skin or by application of films to prevent water loss, or hygroscopic materials to retain moisture. Claims of effectiveness have been placed on lanolin content of the preparations and its penetration through the stratum corneum. Softening or whitening effects are imparted to the skin by materials which alter the "slip" and "feel." The therapeutic and preventive aspects are inter-related since the protection alone of skin will permit healing of lesions at least when caused by simple agents such as drying effects of weather and chemicals.

Blank^{3,4} demonstrated that immersion of dry skin in lipid materials for a long period of time would not soften brittle, dry skin. If this skin is rehydrated, it becomes soft and pliable without any addition of lipid material, also normal skin will usually remain pliable at a relative humidity of 60 per cent or higher. When conditions of wind, low humidity or heat cause excessive and continuous water loss from the stratum corneum, dry and chapped skin may result. Treatment consists of applying agents which will cause softening by rehydration, prevention of infection and secure avoidance of further damage by use of protective agents.

Generally, the following cosmetic ingredients are con-

sidered as desirable: humectants, barrier agents, emollients. Humectants such as glycerin control the moisture at the site of applications. Barrier agents interpose a protective film between the skin and the external environment. A large number of such agents are employed for this purpose, ranging from petrolatum to tragacanth pectin or silicones. Emollients include lanolin and its derivatives as well as various fatty alcohols.

PROCEDURE

During the spring, fall and winter of 1955 and the spring of 1956, a study was made to evaluate the effectiveness of some representative types of skin lotions in the prevention and treatment of dry skin and chapping. Seven widely sold preparations were employed in the test, the identity of each masked by distributing the test materials in plain bottles or jars. Directions for use were then given by the manufacturers of the products.

A total of 219 subjects were included in the tests and the test materials allocated in rotation and switched after three weeks use and seven days repeat observations.

There were 178 females and 41 males of varied nationalities, according to the following age distribution. The youngest 17; the oldest 77.

Average age: Female 48 Male 45

In view of the possible association of detergent use and the presence of dry skin and chapping, a survey among the patients indicated that only 7.3% did not use detergents and among the remainder, average daily use was twice. Since the factors of weather and exposure were thought related to "dry skin," these were recorded for all subjects. Most thought that the time spent indoors was about 50% and 50% outdoors during the waking hours.

Occupation is apparently more directly related to the occurrence of dry skin than were other conditions, such as weather. Beauticians, barbers, nurses and waitresses were the most common occupations among the patients. Domestic, cooks and housewives were next in order and office workers suffered the least. Some pronounced cases were encountered among individuals using strong soaps, detergents and solvents. This was noticeable especially among male garage mechanics and painters.

Each patient was classified according to the degree of involvement, the atmospheric conditions encountered, the use of detergents and chemicals. These four exposure factors were graded as (1) light in 15, (2) moderate in

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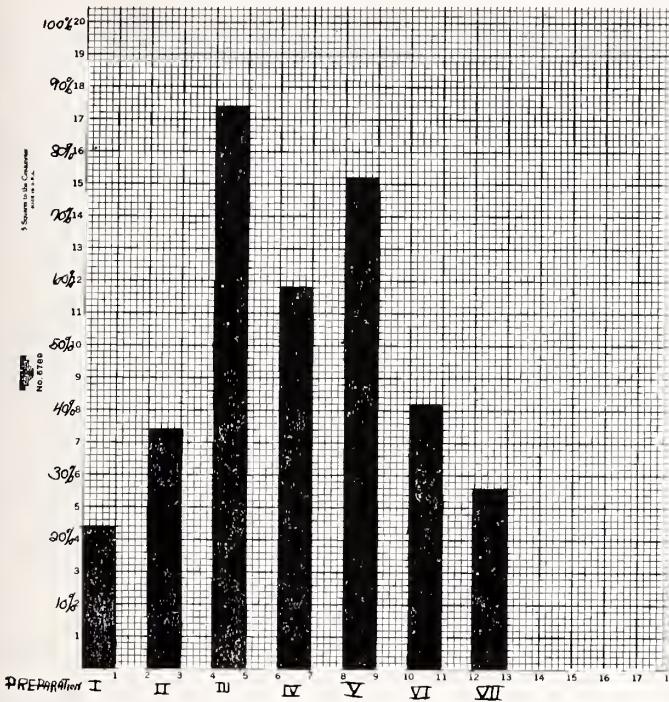


Chart I: Relative Effectiveness In Treating Detergent-Caused Dry Skin.

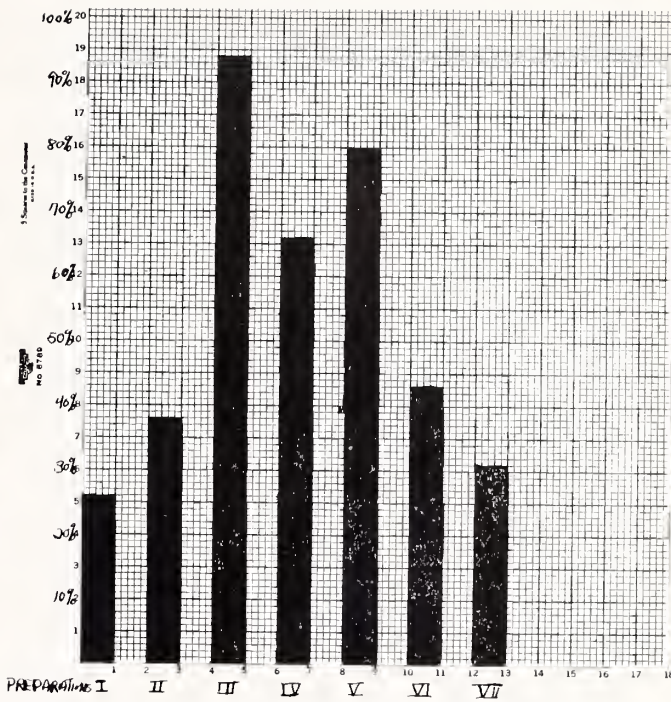


Chart II: Relative Over-All Effectiveness.

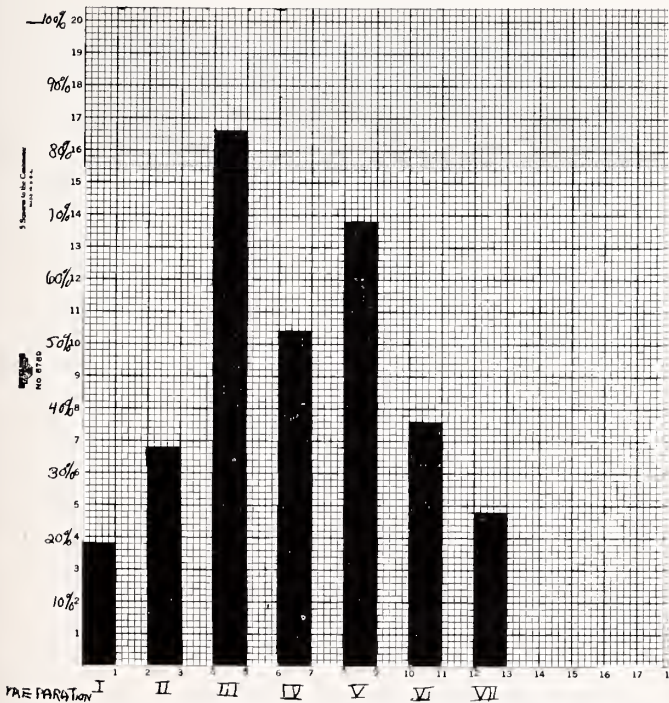


Chart III: Effectiveness In Decreasing Superficially-Caused Blemishes Due To Dryness and Chapping.

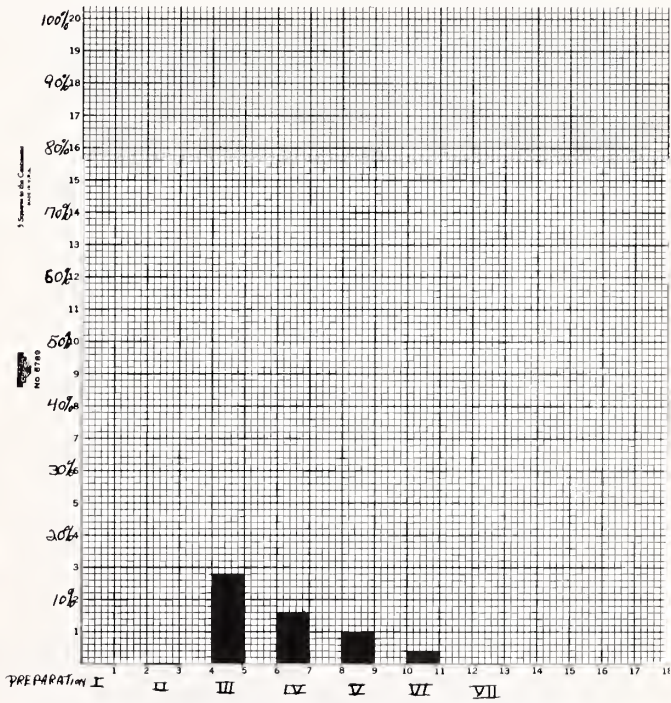


Chart IV: Effectiveness In Decreasing Wrinkling.

167, (3) excessive in 14 and (4) extreme in 23. It was felt that such a classification would be useful in evaluating the efficiency of the test products in relation to their ability to prevent and eliminate dry skin and chapping under these conditions.

Subjects suffering from definite skin diseases and allergies were excluded from the study. All patients were examined initially and at intervals of seven days during the test periods. The preparations used were

rotated at random and the examining physician did not know which product was used.

In appraising the results, objective and subjective criteria were employed. It is interesting to note that, in some cases, the objective findings were not in accord with the subjective results, except in the more severe cases. This is probably due to individual patient preference for appearance, feel or ease of application of the products used.

Prior to the test, 188 subjects had pronounced dryness of the hands, 31 had chapping of various degrees. At the termination of the test, 13 subjects presented dry skin and seven had chapping. These conditions had shown varying degrees of improvement or complete relief during the course of investigation. At the end of each seven day period of test, a score was given relating to the initial condition (dryness and chapping each graded 1 to 4) and the findings were tabulated at the end of the period.

For results see Charts I and II. Note on Chart I that Preparation III was 87% effective in decreasing dry skin caused by detergents. Chart II shows the same Preparation III superior in treating chapping and dryness from all causes.

Subject impressions or patient preference did not coincide with objective findings in the average case. In the more severe disturbances, these findings did coincide, but some subjects expressed disapproval of the consistency, feel, tackiness or odor of some of the preparations used.

In addition to the rotation method, 35 other subjects, i.e. five each, used one product throughout the test period of 160 days. These had given a history of rather persistent dry skin with some chapping. This group was studied in order to determine the results of continued use of the product as well as the appearance of sensitization or other evidence of allergy to the products. No evidence of primary irritation or sensitization appeared with any of the products tested. The results obtained in the long-term study did not vary materially from those found in the three week period.

Charts III and IV give the results of the long-term study:

The pharmacological aspects of the study were investigated during the same periods. Continuous application of each material was made on areas of shaved animal skin. An excised portion of the skin was examined prior to the test in order to establish a basis for comparison. Then histological sections were stained and mounted and compared with the skin excised from the treated areas.

The results obtained by this method indicate that penetration of lanolin into the deeper layers of the skin is relatively slight. In some instances, the lack of film formation by the application of the more watery type preparations tended to increase the flaking and dryness. This may be due to the inability of the humectant material to retain adequate moisture. Preparation III,** not a lanolin type formula, prevented dryness and flaking by its humectant and film formation, or a combination of both factors. Technical problems related to the pH of the skin and other factors may eventually be resolved and establish a basis for improvements in prod-

ucts for skin care. In the present state of knowledge the observed effects in the experimental animals can only confirm our clinical experience.

Among the conclusions reached during the animal studies was that lotions consisting chiefly of lanolin in some instances, or pure lanolin, would form a slight film over the skin. Proper "breathing" was interfered with, and on occasion dryness of the skin would gradually begin.

On the other hand, a demulcent lotion with a glycerin base formed a sheet on the cornified epithelium making it more flexible and better able to retain moisture.

CONCLUSIONS

1. In addition to climatic factors as causal agents, the incidence of dry skin and chapping has apparently increased in recent years due to the use of detergents and chemicals.

2. Cosmetic preparations (hand lotions and creams) play an important part in the prevention as well as the treatment of these conditions.

3. In our experience, a lotion based on a formulae containing glycerin and tragacanth (Preparation III**) combining humectant and invisible barrier formation proved the most effective in prevention and treatment.

4. Preparation III** proved 91 per cent effective when used upon subjects with chapped hands and faces, as well as upon dryness of skin caused by the use of detergents.

5. Solutions containing glycerin and tragacanth acted upon dry skin by preventing the leakage of moisture through the stratum corneum.

6. Lanolin preparations containing an emulsion of oil and water caused a drying, flaking effect on 39 per cent of the test subjects.

7. The long-term study showed elimination of superficially-caused blemishes due to dryness and chapping of skin among 89 per cent of patients treated with the glycerin, tragacanth lotion.** Also was noted a 14 per cent decrease in wrinkling among 61 per cent of subjects with excessively dry skin employing the glycerin lotion. See Chart IV.

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**Italian Balm made by the Campana Corp., Batavia, Ill.

The Journal of the Maine Medical Association

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Across The Desk

Report of the Executive Director — June 1956

"The life of every man is a diary in which he means to write one story and writes another; and his humblest hour is when he compares the volume as it is with what he vowed to make it." James M. Barry's words are descriptive of my feelings as I bring you this report this morning.

The past year has been an interesting and at times an exciting one for me personally. It has been a privilege to work for you and I have enjoyed it.

Medical administration is a new world for me. One year ago I didn't know it existed. Medicine as an economic force just beginning to find integration. Medicine as a force with far reaching effects on society, in education, in legislation and in all branches of government and industry. Medicine is a potent force in the planning of everything from political campaigns to the marketing of low calorie food products.

The Maine Medical Association has a place and a duty to assume that place in the complicated structure that is organized medicine itself. Whether we like it or not, the day has long been gone when any one or any one group of us can ignore these implications and "go it alone."

Trips to other New England medical societies and talks with interested persons wherever I went from Washington County to Washington, D. C. has shown

the need for a program of positive action for our association. A program designed to solve some of its more pressing problems. Let me say at the outset that the ideas presented in this program are not original. Many have been suggested by our own members. Most have been successfully used by other medical associations. Look on each of these proposals with care. Adopt only those parts you feel are good, and I say this with sincerity, reject those that are bad.

ON LEGISLATION

I want to quote directly from the bylaws, "The committee on legislation shall consist of five members. All matters of professional interest to this association which require action by the State Legislature shall be referred to and considered by this committee. It shall act as advisor to the executive director and the legislative counsel for this association.

This is a complicated field. We should have a program so designed that the information on pertinent legislation could be passed along to each member of the association and he must act to inform his representatives of his interest. Brief summaries of bills should be made and all legislation discussed with a competent legislative agent by our committee. In due time we should sponsor some constructive legislation of our own.

Let me give you some examples: 1) A chief medical examiner for the state and a definite set of requirements for those who act as medical examiners in the various counties. 2) A state law recognizing and endorsing and setting up as an official body the regional medical needs committee. The regional medical needs committee should have official sanction — it is getting it in other states. 3) What about the citizenship requirement for eligibility for medical licensure in Maine. There are many criteria for a good doctor or for good medicine, but is citizenship a prerequisite for either? 4) Do you want a basic science law? Should separate boards of registration continue to give separate certificates at each level of practice? 5) Should the state be asked to furnish funds for a medical school or for a survey to determine the need for a medical school in the State of Maine?

Should any of these matters come to the attention of the State Legislature? Wise counsel, mature thought, planning and time should be the quartet that "calls the tune."

PLACEMENT

Where do I find the doctor? Our town has been without an M.D. for five years. Can you help us get a doctor for our community? Vary the words but repeat the thought 83 times and you will know the plight of the rural communities of Maine for 83 of them have asked for your help. This represents some 150,000 Maine people who live in an area in size equal to more than one-half of the state, and they are all looking to you for help.

Last June a program was set up along these lines. The board of registration in medicine generously turned over its placement files to us. The Maine Development Commission did the same thing. These were combined with the files of the Maine Medical Association and the American Medical Association and every doctor who had given evidence of interest in the practice of medicine in Maine was written to. Every community who had asked for help in locating a doctor of medicine was contacted. County societies were checked whenever a question of actual need for an M.D. arose.

That this program is needed, that it is popular, that it is good for organized medicine was demonstrated by its wide acceptance in the newspapers in the state last summer and fall and by the fact that another organization got into the act this winter and spring. During the past 11 months, 51 new doctors have started practice in the State of Maine, 16 of our members transferred, 11 died and 8 retired. This makes a net gain for the state of 16 doctors of medicine.

Of the 51 M.D.s who settled in the State of Maine this year only 8 went into what could be considered rural areas and of these 8, 5 have moved or are in the process of moving.

What shall we tell these 150,000 people? Can we help them to find the right solution to their problems?

COMMITTEES

We must find a way to interest more of our members in working on committees. With some 3 or 4 notable exceptions, most of your committees are non-functioning ones. Committee members should travel to regional and national meetings of interest to the work of their particular committee. Paying their expenses to such meetings amounts to very little. It is money well invested for they return with ideas and with renewed interest. I used this quotation at one county society meeting, but it states the picture so clearly that I am going to repeat it. Francis Bacon in his preface to "The Maxims Of The Law" said "I hold every man a debtor to his profession from which as men of course do seek to gain countenance and profit so ought they of duty to endeavor themselves by way of amends to be a help and an ornament there unto."

PUBLIC RELATIONS

Until recently I thought that newspapers reported the news and that the news was gathered by legmen called reporters who went out over the countryside in search of news. Here my childlike concepts, derived mostly from the motion pictures of my earlier days, were wrong. Newspapers print what public relations people give them to print. Reporters are human even as you and I. If someone hands a reporter a story, he uses it rather than write one of his own. The only public information program of value is one that functions 12 months a year, one that keeps its channels clear and busy every week. We need help in this area — professional help to aid the Public Relations Committee.

THE BYLAWS

These should be reviewed yearly and revised to fit the standard operating procedures necessary for a well run association. It is my firm belief that we should have a speaker of the house of delegates and an assistant speaker to handle the affairs of the business session. These men should serve for long terms and will be most valuable in "keeping our house in order." A committee on bylaws should work and report each year. Is 20 still a representative quorum for this house?

THE BUDGET

The only comment I wish to make is that these programs which I consider essential will cost you some money. These are important items for the association and you are being asked to support them.

THE JOURNAL

We have made every effort to make the Journal more attractive and more interesting. This year at the general assembly prizes will be awarded for the best contributions to the Journal. This year we have changed printers, changed the quality of the paper and added a section called, "Across the Desk," in which an

attempt is made to keep you posted on the items of interest that do come across the editor's desk. As Mrs. Kennard indicates in her report, the response from our advertisers has been most gratifying.

May I have the privilege in introducing a personal note in closing. My thanks go to all those who have helped: Dr. Vickers and the entire council, who gave up 6 long weekends and many long evenings to work on association business; to Mrs. Kennard, who really is the gem of the whole organization; to the many

committee members who gave their efforts so willingly. Also on the personal side I want you to know that I feel another executive officer would be best for you. This program is offered to you after much thought. Let's work together and get the program going while we find the right individual to run it. Then I can once again be like you and return to what Sir William Osler referred to as the greatest of all professions — the practice of medicine.

The Dependents Medical Care Act and Its Implementation

Recently the Congress passed the Dependents Medical Care Act the purpose of which "is to create and maintain high morale throughout the uniform services by providing an improved and uniform program of medical care for members of the uniform services and their dependents." An appropriation of seventy-six million dollars was voted to pay for these services. The Secretary of Defense under the provisions of this act was authorized to set up a plan for its implementation. A Task Force appointed by him and composed of members of the various branches of the services has been working on a plan to implement this act and is assisted by a Task Force appointed by the American Medical Association and by Blue Shield-Blue Cross representatives and representatives of private insurance companies. Although the final plan has not been completed, the basic groundwork of such a plan was presented to the representatives of the various state medical societies in Chicago on July 28 and 29. Present at this meeting also were representatives of the Blue Shield-Blue Cross, private insurance companies and the American Medical Association.

Before presenting the major features of the plan, it might be wise to examine the background of the problem which was outlined to us by a member of the Department of Defense Task Force at the meeting. The number of dependents of the armed services at this time is about three million. The bulk of these are within the continental limits of the United States and the majority are wives and children. The Task Force estimates that forty per cent (40%) of this number are not covered adequately for medical care either because of distance from military medical facilities or because the facilities are overtaxed. It was not possible for the Task Force to give the figures on the number of dependents residing in each state because of the rapid turnover and the movement of service men and their dependents so that there is no way of knowing how many dependents reside in the State of Maine.

The provisions of the basic plan embrace the following major points which are of interest to us. Those eligible are the lawful wives and dependent children of active duty personnel. Inpatient care in civilian

facilities is all that is authorized under the present bill. All outpatient care is the responsibility of the service facilities. An exception to inpatient care is the obstetrical care which will come under the service facilities unless the case load in a given service facility is too great, in which event such care may be obtained in civilian facilities. The law provides these dependents with medical care for the treatment of acute medical and surgical conditions including acute exacerbations or acute complications of chronic diseases, the treatment of contagious diseases and the treatment of obstetrical cases providing the case load in a service facility is too great. Each case may be treated for as long as 365 days in semi private accommodations for each admission. Not coming within the purview of this law are treatment of chronic diseases and treatment of nervous and mental disorders. Hospitalization in these cases may be authorized for diagnostic purposes. There are no provisions for domiciliary care. Physicians' fees for eligible cases are to be set by the State Medical Societies using a nomenclature issued by the Department of Defense Task Force. An administrative agency chosen by the State Medical Societies will act as intermediary between physicians and hospitals and the Department of Defense for collection of bills and adjustments of claims. There are many details in the provisions of this plan which are now being clarified.

The following conclusions were drawn up at the Chicago meeting. Once a State Medical Society has decided to participate a fee schedule should be established on the nomenclature list received from the Department of Defense Task Force. A responsible agency, such as Blue Cross-Blue Shield or a private insurance carrier, should be appointed as an administrator of the plan for each state. Both the fee schedule and the name of the appointed responsible agency should be forwarded by the State Medical Society as soon as possible to the American Medical Association Task Force who will in turn forward it to the Task Force of the Secretary of Defense.

I believe that the Task Force of the Department of Defense desires to set up a plan which would be acceptable to all the doctors of the country so that

the provisions of the law can be carried out. The importance of requesting the State Medical Societies to set the fees for their individual states was a feature which was both democratic and necessary since economic conditions vary in different parts of the country. This is not an insurance plan but fee for service plan and a fee schedule should be set up based on current rates acceptable in this state for private patients. The choice of administrator of the plan lies between the Blue Shield-Blue Cross organizations and private insurance carriers. The latter have already stated that they would

be willing to run the plan in any state which chooses to accept them as the administrative agent. The administrative costs are borne by the government. It was a pleasure to act as your representative at this meeting in Chicago. It is important, I think, to appreciate that it is our duty both as citizens and as doctors to lend our assistance in carrying out this law. I was impressed by the work of the American Medical Association Task Force in guarding the rights of the profession during the planning stages.

H. D. WARREN, M.D.

Medical Needs of Maine

The Rockefeller Foundation has studied Maine Medicine this past Summer. Under the able direction of Drs. Smillie (Cornell) and Curran (N.Y.S Med) the group has concentrated on the *unmet* medical needs of

the State. The final report will be ready late this Fall. This once-in-a-lifetime chance to see ourselves as others do will be interesting. Its final value can be assessed only in terms of our ability to act upon it.

Facts and Figures

The eight hundred and thirty Doctors of Medicine with whom you practice in this State were graduated from fifty-eight different American Medical Schools, seven Medical Schools in Canada, and thirty-two in other Foreign Countries.

How many from where? A list of the medical schools with more than ten graduates follows:

<i>Medical Schools</i>	<i>Number of Graduates Practicing Medicine</i>
Tufts University Medical School	128
Harvard University Medical School	75
*Bowdoin College Medical School	74
Boston University School of Medicine	63
McGill University School of Medicine	47

University of Vermont College of Medicine	38
Yale University School of Medicine	27
Columbia University School of Medicine	23
University of Pennsylvania School of Medicine	23
Georgetown University School of Medicine	22
Cornell University Medical College	21
Jefferson Medical College	20
Johns Hopkins University School of Medicine	17
Hahnemann Medical College	13
University of Montreal	11
Long Island College of Medicine	10

*Last class graduated from Bowdoin College Medical School in 1921.

Number of Graduates of Canadian Medical Schools practicing in Maine — 82

Number of Graduates of Foreign Medical Schools practicing in Maine — 51

Maine M.D. on the National Scene

Charles W. Steele, M.D., Lewiston, Maine, attended the 130th Meeting of the American Chemical Society which was held in Atlantic City on September 19, 1956. In the Division of Analytic Chemistry, there was a symposium on air pollution.

The methods for the detection of the nerve gases were discussed in detail for the first time and gas alarm apparatus was also described in detail.

The heavy duty gas masks, CD-V-800, have at last gone into mass production and delivery has started.

The Detection Kit, CD-V-810, originally designed for the U.S. Navy will become available in October of this year.

Maine has one thousand masks and 100 kits on order.

The development work on the Civilian Protection Mask will be completed in December of this year and limited production will start in February 1957. This mask will be made in six sizes and will cost approximately \$2.00.

Conference in the Sun

The Bahamas Medical Conference will be held in Nassau, December first to the fifteenth, 1956. The new Princess Margaret Hospital will serve as a center for clinical demonstrations and lectures.

Reservations and travel arrangements may be made through Allen Travel Service, 550 Fifth Avenue, New York 36, New York.

Continued on page 324



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

State Policy On Payment For Medical Care

JOHN Q. DOUGLASS, *Director*
Bureau of Social Welfare

Why are some bills for medical care for "state cases" returned with the statement that the individual himself must be responsible for payment? Why is the department so interested in and willing to pay for diagnostic information on some people and yet completely unwilling to pay for any treatment? Why must physicians look to municipalities for payment on some state cases and to the Department of Health and Welfare on others? Why do social workers take so much responsibility in some instances and so little in others?

These and other questions are asked daily by members of the Medical profession. The pressures on both the inquirer and the respondent are usually so great that the answers may appear indefinite and seldom is there opportunity to consider either the reasons for or implications behind them.

In its simplest terms, the responsibility of the state is directly related to the degree of responsibility which the state through legislation has assumed for either the individual or his physical condition.

For example, when a child has been wilfully neglected by his parents a court may remove custody from the parents and cause the child to become a ward of the state. In such a situation the state must assume all responsibility for that child regardless of costs or duration of care. After a state policy as reflected in the law was established declaring the rehabilitation of the blind to be in the best interests of all, medical rehabilitation whether of the eye condition or other physical impairment or disease is a necessary step in the process.

However, a different kind of relationship exists with respect to those individuals who are in financial need. Rather than a comprehensive welfare program for all people in need both state and national policy approach the problem by categories. Thus, there are financial assistance programs for people in need because of old age, blindness, permanent and total disability, and children in their own homes deprived of parental support by reason of death, continued absence of a parent or in-

capacity of a parent. These laws provide for money payments from which the individuals or families are expected to meet their own needs and for direct payments by the department for medical, hospital and remedial care expenses.

Because of legal maxima on the amount of the money payment, and the amounts appropriated for direct payments, there is practically no provision for medical expenses other than the forty-five days per year of hospitalization. Moreover, the money payments are, in accordance with Federal regulations, "unrestricted," in the sense that the payment may be spent at the discretion of the recipient. Therefore, some individuals may be able to purchase professional care, drugs and other therapeutic services while other recipients are not. Because of the limitation of funds these items are not considered as needs in computing the amount of the money payment and thus such expenditures on the part of individuals are made from money provided to meet the expenses of such basic items as food, clothing, shelter, fuel and utilities.

As indicated above, in some instances, eligibility for assistance is dependent on the existence of a permanent and total disability or incapacity of a parent. To permit determination of the existence or absence of a disability or incapacity is the reason of payment by the department for diagnostic information from the physician.

People in need who do not qualify for assistance under one of the categories or who are not receiving sufficient categorical assistance to meet medical needs can apply to local welfare officials for general relief.

Payment of general relief is through the town of residence from local funds which may be reimbursed by another municipality or by the Division of General Relief of the Department of Health and Welfare depending upon the municipality of legal settlement or the state agency if the individual has no legal settlement in Maine. Policies relative to provision of medi-

Continued on page 324

COUNTY SOCIETIES

ANDROSCOGGIN

President, Wirt L. Davis, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

AROOSTOOK

President, Stephen S. Brown, M.D., Mars Hill
Secretary, Clyde I. Swett, M.D., Island Falls

CUMBERLAND

President, Louis A. Asali, M.D., Portland
Secretary, Stanley E. Herrick, M.D., Portland

FRANKLIN

President, D. Wade Marsters, M.D., Strong
Secretary, Paul E. Floyd, M.D., Farmington

HANCOCK

President, John T. Connell, M.D., Blue Hill
Secretary, Arthur M. Joost, Jr., M.D., Bucksport

KENNEBEC

President, M. Tieche Shelton, M.D., Augusta
Secretary, Arch H. Morrell, M.D., Augusta

KNOX

President, Frank W. Kibbe, M.D., Rockland
Secretary, Parker Heath, M.D., Rockland

LINCOLN-SAGADAHOC

President, Joseph I. Smith, M.D., Bath
Secretary, Everett D. Schubert, M.D., Wiscasset

OXFORD

President, John F. Hughes, M.D., Dixfield
Secretary, Peter B. Aucoin, M.D., Rumford

PENOBSCOT

President, Carl E. Blaisdell, M.D., Bangor
Secretary, Herbert C. Scribner, M.D., Bangor

PISCATAQUIS

President, Norman H. Nickerson, M.D., Greenville
Secretary, Robert C. MacDuffee, M.D., Monson

SOMERSET

President, William B. Grow, M.D., Fairfield
Secretary, Harland G. Turner, M.D., Norridgewock

WALDO

President, Ernest W. Stein, M.D., Pittsfield
Secretary, Raymond L. Torrey, M.D., Searsport

WASHINGTON

President, Edwin B. Johnston, M.D., St. Stephen, N. B.
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, Louis C. Lesieur, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

LINCOLN-SAGADAHOC

September 18, 1956

The regular monthly meeting of the Lincoln-Sagadahoc County Medical Society was held September 18, 1956, at The Ledges Inn, in Wiscasset. There were eighteen members and guests present.

The meeting was called to order by President Joseph Smith, M.D. The minutes of the last meeting were read and accepted.

In the absence of any pressing current business, the meeting was turned over to Daniel Hanley, M.D., Executive Director of the Maine Medical Association, who presented a film distributed by the American Medical Association, entitled "The Case of the Doubting Doctor." The film was followed by a discussion of some of the current problems facing the Maine Medical Association.

EVERETT D. SCHUBERT, M.D.
Secretary-Treasurer

NEW MEMBERS

PENOBSCOT

Robert C. Cornell, M.D., 78 State Street, Bangor, Maine.
George R. Walker, M.D., Main Street, East Corinth, Maine.

CHANGE OF ADDRESS

AROOSTOOK

Raymond G. Giberson, M.D.
From—555 Main Street, Presque Isle, Maine
To—2500th U.S.A.F. Hospital, Mitchell Air Base, Long Island, New York

CUMBERLAND

Robert W. Agan, M.D.
From—Mercy Hospital, State Street, Portland, Maine
To—144 State Street, Portland, Maine
William A. Ventimiglia, M.D.
From—Veterans' Hospital, Albany, New York
To—77 South Gate Road, Loudonville, New York

KENNEBEC

Kenneth K. Berman, M.D.
From—Veterans' Administration, Togus, Maine
To—Veterans' Hospital, East Orange, New Jersey
Roland L. McKay, M.D.
From—284 Water Street, Augusta, Maine
To—P. O. Box 265, Augusta, Maine
John D. Southworth, M.D.
From—Veterans' Administration, Togus, Maine
To—49 Washington Street, Calais, Maine

KNOX

Donald H. Brown, M.D.
From—13 Maple Street, Rockland, Maine
To—Maine General Hospital, Portland, Maine

PENOBSCOT

Charles D. McEvoy, Jr., M.D.
From—Veterans' Administration Hospital, Rutland Heights, Massachusetts
To—51 Highland Street, Bangor, Maine
Arthur P. Stebbins, M.D.
From—209 State Street, Bangor, Maine
To—Portland, Maine

Continued on page 326

Maine Medical Association

Fall Clinical Session Notes

Lewiston, Maine — November 18, 19, 20

The Scientific Program Includes —

JOHN W. STRIEDER, M.D.

Professor, Thoracic Surgery
Boston University School of Medicine
Boston, Massachusetts

ANDREW G. JESSIMAN, F.R.C.S.

Peter Bent Brigham Hospital
Boston, Massachusetts

MILFORD D. SCHULZ, M.D.

Radiologist
Massachusetts General Hospital
Boston, Massachusetts

BRADLEY L. COLEY, M.D.

Associate Professor, Clinical Surgery
Cornell University Medical School
New York, New York

ROBERT R. SMITH, M.D.

Chief, Surgery Branch
National Cancer Institute
Bethesda, Maryland

PAUL A. YOUNGE, M.D.

Free Hospital for Women
Brookline, Massachusetts

Androscoggin County Medical Society Committee
on Arrangements:

WIRT L. DAVIS, M.D., *President*
DONALD L. ANDERSON, M.D., *Secretary*
JOHN A. JAMES, M.D.
RALPH A. GOODWIN, SR., M.D.
ROMEO A. BELIVEAU, M.D.
ROBERT D. WAKEFIELD, M.D.
CHARLES A. HANNIGAN, M.D.
PAUL J. LAFLAMME, M.D.
VINCENT H. BEEAKER, M.D.

Tuberculosis Abstracts^{*}

Issued By The National Tuberculosis Association

TB On Skid Row

By Donald J. Ottenberg, M.D., Bulletin, National Tuberculosis Association, June, 1956.

For many years the blackest spot on the map of tuberculosis morbidity and mortality in Philadelphia has been "skid row." In 1953-54 one of these census tracts had a tuberculosis mortality rate of 469 per 100,000 compared to a rate of 20.1 for the city as a whole. The reported active case rate was 1120.4 compared to 79.8 for the whole city.

Knowledge of such a startling tuberculosis problem stimulated the Philadelphia Tuberculosis and Health Association, with other voluntary agencies, to conduct organized X-ray surveys among skid row inhabitants as far back as 1952. The prevalence of serious tuberculosis was almost unbelievable, but relatively few homeless men would accept an X-ray. The most elaborate promotional schemes, ranging from individual "buttonholing" on the street to offering free Sunday dinners, could not overcome the evasiveness of skid row men.

The hope of reaching a larger number of these men in surroundings more conducive to cooperation led to the plan to X-ray the nightly yield of drunks, vagrants, and peace disturbers held for magistrate's court at a city police station. A proposal to conduct such a survey on a demonstration basis was laid before the chairman of the Committee on Public Health of the City Council, who enthusiastically carried the plan to the Mayor and the Police Department for approval.

Earlier experience with homeless men served to emphasize the importance of a well-organized survey procedure, with prompt and aggressive follow-up. In previous surveys between the time of the film taking and the time when results became available, a large number of the men had dropped out of sight. An address given by a person one day, if not incorrect to begin with, was likely to be of no value in locating that person a few days later.

A further complication was that one-night hotels do not permit the men to remain in the rooms during the day when public health nurses ordinarily would come to interview them. In the evening, when the men might be "at home," the nurses were not available to seek them out.

Facing such obstacles, the survey team put much effort into pre-survey consultations among staff members from the Police Department, the City Divisions of Tuberculosis Control and Public Health Nursing, the local health districts and the voluntary agencies.

A portable photofluorographic unit of the association was set up at the police station and the men who had been picked up by the police during the night were offered a chest X-ray at the time of discharge after a magistrate's hearing in the morning. With few exceptions, the men who had been in custody took the magistrate's offer more as an order than an invitation. Almost all who were discharged during the period of the survey were X-rayed.

Films were developed on the day of exposure, except on weekends, and were read the next morning before the regular

work day of the city public health nurses. Positive reports were phoned to the health center in the appropriate district, enabling the nurses to visit the address of the person with suspicious findings the same day, which except on weekends was the day after the film had been taken. Cases read as advanced active tuberculosis were reported directly to the Division of Tuberculosis Control so that hospital beds could be made available immediately.

Persons not located by the public health nurses during the day were reported at the end of the day to two male investigators who continued the search at night.

In the six-week period 1750 persons were X-rayed. Tuberculosis was read in 151 films, or 8.6 per cent. Among the 151 films read "tuberculosis" were 37 labelled active from the film appearance alone. This diagnosis was confirmed in the clinic in 20 of the 37. Another diagnosis was reported for 6, while no reports were available on the remaining 11. Twelve additional active cases were diagnosed among persons whose survey films had been read "tuberculosis of indeterminate activity," giving 32 proved active cases altogether, a rate of 18 per 1000. Twenty-two of the 32 had not previously been known to the Health Department, and at least half of the 10 previously known were not under supervision at the time of the survey.

It seems likely that there was more active tuberculosis in the group than the rate indicates, since no follow-up diagnoses were available on 30 per cent of those whose films were read "probably active" and 58 per cent of those read "activity indeterminate." The yield of active disease is at least 18 times greater than one would expect in the population at large and is in general agreement with reports from other metropolitan areas.

Although 136 cases read tuberculosis were referred for further study, 63 or 46 per cent failed to appear and 47 of these 63 men could not be located. Within 24 hours they had returned to the anonymity of skid row. Apparently they were devoid of any permanent ties that might help to trace them from one day to the next.

The survey resulted in hospital treatment for 11 men and brought or returned 50 others to clinic supervision. This more than justified the expenditure of money and effort. At the same time the results pointed up the peculiar problems presented by a skid row population and the need for special techniques, particularly in follow-up.

Those who have thought of homeless men as vagabonds who use skid row only as a temporary stopping place were surprised to discover that 30 per cent of the men were born in Philadelphia and 78 per cent consider Philadelphia as a place of permanent residence. Of those who listed Philadelphia as their permanent home, 97 per cent had been in the city over six months and three out of four had been there over 10 years.

It is clear that the skid row problem goes beyond the consequences of any one disease, even such a serious disease as tuberculosis. Skid row exists because the men on it are incapable of making an adequate life adjustment. They are properly to be considered among the mentally or emotionally ill. Alcoholism touches most of them, although no categorical

Continued on page 328

^{*} Vol. XXIX, October, 1956, No. 10.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

Necrologies

Clarence F. Kendall, M.D.

1876-1956

Clarence F. Kendall, M.D., former State Commissioner of Health, died in Biddeford on August 22, 1956.

Dr. Kendall was a practicing physician for more than 55 years and one of York County's oldest retired physicians. He was an Honorary member of the Maine Medical Association, a member of the American Medical Association, and of the York County Medical Society.

He was born in Biddeford January 15, 1876, son of Lucius and Adesta Hall Kendall. He graduated from Biddeford High School in 1894 and from Bowdoin College in 1898 where he was a leading track star and captain of the track and field team, as well as being a Varsity football player.

Dr. Kendall received his M.D. degree from the Bowdoin Medical School in 1901 and served his internship at the Maine General Hospital. He did post-graduate work at Massachusetts General Hospital. He practiced medicine in Jonesport for two years and in Biddeford from 1905-1917.

During World War I he was commissioned a major and

served as chief surgeon of the United States Coastal Defense in Portland. Later he was surgeon of the 72nd Coast Artillery overseas.

He was city physician in Biddeford and then district health officer for the State Department of Health in 1920-1921. In the same year he was appointed Commissioner of Health for the State of Maine and served two terms. He was with the United States Department of Public Health for ten years and with a CCC Camp in Vermont for six years. He retired from medical practice in 1946 but maintained his interest in Medical Society activities.

Dr. Kendall belonged to the Second Congregational Church, was an honorary member of Dunlap Lodge, AF & AM Scottish Rite, York Arch Chapter, OEF of Augusta.

His wife was the former Annie L. Norton of Jonesport who died in 1952. He is survived by a son, Otis A. Kendall of Wellesley, Massachusetts, a daughter, Mrs. Lucia K. Berry of St. Petersburg, Florida, and two granddaughters.

Arthur J. Stimpson, M.D.

1871-1956

Arthur J. Stimpson, M.D., 85, a practicing physician in Kennebunk for many years, died at his home August 9, 1956.

Dr. Stimpson, who completed fifty years in the practice of medicine in 1944, was an Honorary member of the Maine Medical Association. He had received the Association's 50-year medal and 55 and 60-year lapel pins.

He was born in Brunswick July 11, 1871 the son of Charles R. and Harriet Lambert Stimpson. He graduated from Brunswick High School and Bowdoin College, and in 1894 he received his M.D. from Bowdoin Medical School. Dr. Stimpson did post-graduate work at the New York Post-Graduate School of Medicine and at New York Lying-In Hospital.

He was a member of the American Medical Association, the Maine Medical Association, and the York County Medical Society. A World War I veteran, he was an active member of the Webber Lefebvre Post, American Legion. He was also active in York Lodge, AF & AM Lodge, Knights of Pythias, and Mousam Lodge IOOF.

Dr. Stimpson began the practice of medicine in Boothbay Harbor in 1897. He practiced in Waterville from 1902-1917; and in 1919 he moved to Kennebunk where he practiced until his death.

He is survived by his wife, the former Lillian M. Flagg of Brunswick, a daughter, Mrs. Kenneth Stackpole, Pleasantville, New York, a sister, and two granddaughters.





ACHROMYCIN*

Tetracycline Lederle

for prophylaxis and treatment of

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Posner and his colleagues¹ have reported on the use of tetracycline (ACHROMYCIN) in 96 cases of obstetric complications, including unsterile delivery, premature rupture of the membranes, endometritis, parametritis, and other conditions. They conclude that this antibiotic is ideally suited for these uses.

Other investigators have shown ACHROMYCIN to be equally useful in surgery and gynecology and virtually every other field of medicine. This outstanding antibiotic is effective against a wide variety of infections. It diffuses and penetrates rapidly to provide prompt control of infection. Side effects, if any, are negligible.

Every gram of ACHROMYCIN is made in Lederle's own laboratories and offered *only* under the Lederle label—your assurance of quality. It is available in a *complete* line of dosage forms, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Attacks the infection, bolsters the patient's natural defenses, thereby speeds recovery. Especially useful in severe or prolonged illness. Stress formula as suggested by the National Research Council.

SF Capsules, 250 mg.

SF Oral Suspension, 125 mg. per teaspoonful (5 cc.)



For more rapid and complete absorption. Offered only by Lederle!

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¹Posner, A. C., *et al.*; Further Observations on the Use of Tetracycline Hydrochloride in Prophylaxis and Treatment of Obstetric Infections, *Antibiotics Annual* 1954-55, pp. 594-598.



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F.16, 1/50 SEC., ROYAL PAN FILM

STATE POLICY ON PAYMENT FOR MEDICAL CARE

Continued from page 317

cal care and ability to finance such care vary from municipality to municipality and the state has no control on this aspect of local government. With respect to unsettled individuals, the policy is to provide all necessary medical care.

Provision of adequate medical care for the financially dependent is one of the thorniest governmental problems. Cost estimates are staggering, but equally disturbing is the realization of the cost of failing to meet the needs.

The ultimate objectives of any welfare program should be to restore to self-support those people who have a potential for employment, to enable a maximum degree of self-care for those who will not return to the labor market and to prevent future financial dependency for the children in the program. Without medical services, these objectives cannot be achieved in many instances.

It is because the present patchwork of medical services in the department does contribute, however inadequately, toward partial meeting of those objectives that the program can be defended and plans made for extension. At the same time there must be an awareness of the need for the eventual development of a new and more comprehensive program. The medical profession will play an important part in this process.

For purposes of recapitulation and summary there is listed the departmental responsibility in each of its welfare divisions:

PUBLIC ASSISTANCE (Old Age Assistance, Aid to the Blind, Aid to Dependent Children, Aid to the Disabled)

- (1) **PROFESSIONAL SERVICES**—No provision in money payments or direct payment except as in (3) below. Recipients have right to make payments from unrestricted money payment.
- (2) **HOSPITALIZATION**—Forty-five days each fiscal year for each recipient, each spouse, each child in Aid to Dependent Children and each

parent with whom child lives. In event of use of 45 days, recipients become eligible for State Hospital Aid.

- (3) **DIAGNOSTIC SERVICES**—In Aid to the Disabled, Aid to the Blind, and Aid to Dependent Children, when deprivation based on incapacity payment for examination upon authorization of social worker and consultation and/or hospital workups on advice of medical review team or consulting ophthalmologist.

CHILD WELFARE (children whose legal custody has been given to the State)

- (1) **PROFESSIONAL SERVICES**—All needs met upon prior authorization of social worker (authorization not necessary in emergencies)
- (2) **HOSPITALIZATION**—As necessary at contract rate established between department and hospitals.

(3) **DRUGS, PROSTHESIS, ETC.**—As prescribed. **SERVICES FOR THE BLIND** (this summary relates to general medical services for legally blind persons who are being considered or who have been accepted for vocational rehabilitation. Eye care, not considered in the summary, is provided by agreement between certified ophthalmologists and the department.)

- (1) **PROFESSIONAL SERVICES**—Diagnostic service for those persons being considered for rehabilitation and treatment for those accepted.
- (2) **HOSPITALIZATION**—At contract rate as in (1).
- (3) **DRUGS, PROSTHESIS, ETC.**—As necessary for those accepted for vocational rehabilitation.

GENERAL RELIEF

- (1) **PROFESSIONAL SERVICES** —
- (2) **HOSPITALIZATION** —
- (3) **DRUGS, PROSTHESIS, ETC.** —
Local municipalities reimbursed for charges upon evidence of need for services.

ACROSS THE DESK — *Continued from page 316***Health and Politics**

The platform of each political party contains sturdy timbers in the health section. Both parties strongly favor more Federal Aid in construction of hospitals, medical schools, research facilities, chronic disease and rehabilitation centers, etc.

In the announcements and speeches since the Conventions, medical care and its cost are receiving increasing attention. Each presidential candidate is put-

ting it high on the list of things, "I can do better."

In San Francisco the large (600,000) and aggressive Machinist Union again gave its support of Government sponsored medical care.

All this points to the development of an ideal climate for the resurrection of the National Health Insurance Issue at the next session of Congress.

A RESEARCH MILESTONE

Nilevar*

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Searle's New and Practical Steroid Specifically for Protein Anabolism—

It has long been recognized that a substance which would promote protein anabolism would be of inestimable value in therapy. The androgens have this property, but unfortunately they also exert actions on secondary sex characteristics. These effects are commonly undesirable in therapeutic programs.

THE FIRST STEROID WITH ANABOLIC SPECIFICITY—Nilevar, the newest Searle Research development, therefore, meets a long desired clinical need because Nilevar presents the first steroid primarily anabolic for protein synthesis. Moreover, Nilevar is without prominent androgenic effects (only about one-sixteenth of that exerted by the androgens).

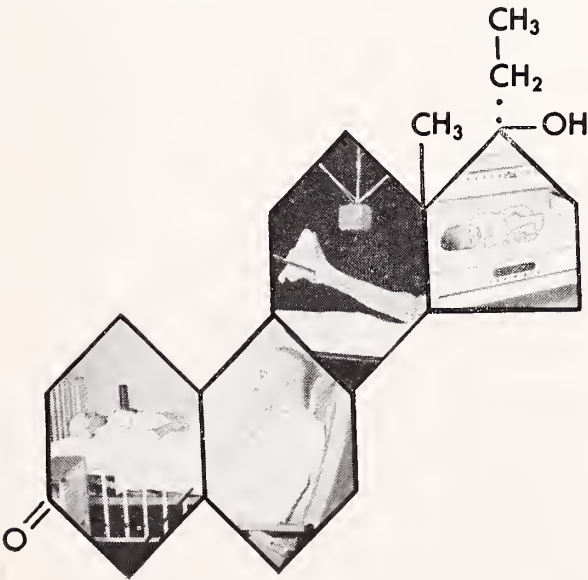
OBJECTIVE AND SUBJECTIVE RESPONSE —Orally effective, Nilevar therapy is characterized by retention of nitrogen, potassium, phosphorus and other electrolytes in ratios indicative of protein anabolism. Moreover, subjectively the patient observes an increase in appetite and sense of well-being.

WELL TOLERATED—Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently. Slight androgenicity may be evidenced on high dosage or in particularly responsive individuals.

MAJOR INDICATIONS—Preparation for and recovery from surgery; supportive treatment of serious illnesses (pneumonia, poliomyelitis, carcinomatosis, tuberculosis); recovery from severe trauma and burns; decubitus ulcers; care of premature infants.

DOSAGE—The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the average daily dose is 1 to 1.5 mg. per kilogram of body weight; individual dosages depend on need and response to therapy.

SUPPLY—Nilevar is available in uncoated, unscored tablets of 10 mg. G. D. Searle & Co., Research in the Service of Medicine.



*Trademark of G. D. Searle & Co.

SEARLE

COUNTY SOCIETY NOTES

Continued from page 318

John A. Woodcock, M.D.

From—U. S. Naval Hospital, Chelsea, Massachusetts
To—35 Second Street, Bangor, Maine

YORK

Robert B. Stewart, M.D.

From—U. S. Naval Hospital, Camp Pendleton, California
To—Maine Medical Center, Portland, Maine

DECEASED

CUMBERLAND

Samuel G. Sawyer, M.D., The Eastland Hotel, 157 High Street,
Portland, in March, 1956.Harris B. Haskell, M.D., 45 Sewall Street, Augusta, on Sep-
tember 6, 1956.

News — Notes

Maine Society of Anesthesiologists
Elects Officers for 1956-1957

At the annual meeting of the Maine Society of Anesthesiologists on September 22, 1956, the following officers were elected for 1956-1957:

President, Kenneth J. Cuneo, M.D.

31 Summer Street
Kennebunk, Maine

Vice-President, Francis X. Mack, M.D.

Mercy Hospital
Portland, Maine

Secretary-Treasurer, Clement S. Dwyer, M.D.

205 French Street
Bangor, Maine

Post-Graduate Course in Neurology

CENTRAL MAINE GENERAL HOSPITAL

Lewiston, Maine

There will be a post-graduate course in Neurology at the Central Maine General Hospital, Lewiston, Maine, beginning on Thursday, November 8, 1956. The course will be given by John F. Sullivan, M.D., Assistant Professor of Neurology at Tufts University School of Medicine and Senior Physician of the New England Center Hospital.

This course is designed to be of particular value to general practitioners, internists, surgeons, and pediatricians. It will include a discussion on the techniques of conducting a neurological examination and interpretation and localization of the signs and symptoms of neurological diseases. It will also include methods of management of convulsive disorders and other neurological problems. The discussion will be supplemented by actual demonstration on patients.

The course will be given on Thursday afternoons from 3:30 to 5:30 p.m. It will consist of four sessions to be held on November 8, 15, 29, and December 6.

Tuition for the course will be \$20.00. For detailed information write to — Ralph Zanca, M.D., Chairman, Graduate Education Committee, 405 Center Street, Auburn, Maine.

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Bottles of 100.

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BURROUGHS WELLCOME & CO. (U. S. A.) INC.
Tuckahoe, New York

New England Pediatric Society

The next meeting of The New England Pediatric Society will be held on Wednesday, October 24, 1956.

Dr. Louis K. Diamond will be the chairman of the Scientific Session to be held in the Jimmy Building Auditorium.

Evening meeting will be held at Longwood Towers.

ALLAN M. BUTLER, M.D., *President*
HARRY SHWACHMAN, M.D., *Secretary*

Former Member of Maine Medical Association Collaborates on Penetrating Study of Hazards of Mother-Daughter Relationships

Dr. Vincent T. Lathbury, eminent psychiatrist who was born in Pittsfield, has written an arresting new book in collaboration with Dr. Edward A. Strecker. Entitled "Their Mothers' Daughters," the book reveals the devastating influence of "Moms" on the lives of their daughters. It was published by J. B. Lippincott Company in September.

The authors probe the motivations of every mother's dealings with her daughters, delving into the minds of the dominating mother, the overly-protective mother, as well as the father's role in the upbringing. A challenge to self-examination and honest thinking, the frank observations reflect the authors' years of vast experience in psychiatry.

Vincent T. Lathbury spent his early childhood in Pittsfield, then moved to Augusta, Maine. With his wife and two children he spends every summer at Boothbay Harbor.

Dr. Lathbury was graduated from Bowdoin College, Brunswick, Maine, and from Tufts College Medical School, in Boston, Massachusetts, followed by internship at Memorial Hospital, Worcester, Massachusetts. He returned to Augusta for six years of general practice, and in 1942, as a Lieutenant in the U. S. Naval Reserve, assumed an active duty status until 1945. He served one year at the U. S. Naval Section Base, in Portland, and twenty-six months of sea duty in the Amphibious Force.

Dr. Lathbury was discharged from the Navy in 1945 with the rank of Commander. Pursuing an interest in psychiatry, he took two years of training at the Institute of the Pennsylvania Hospital in Philadelphia, where he subsequently became a member of the staff, and where he still practices. He is also Assistant Professor of Psychiatry at the University of Pennsylvania School of Medicine.

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Bumbalo, T. S., Gustina, F. J.,
and Oleksiak, R. E.:
J. Pediat. 44:386, 1954.

White, R. H. R., and
Standen, O. D.:
Brit. M. J. 2:755, 1953.

against **ROUNDWORMS**

"Ninety per cent of the children passed all of their ascarides..."

Brown, H. W.:
J. Pediat. 45:419, 1954.

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BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, New York

X-Ray Conferences

Conducted by Merrill Sosman, M.D.
Roentgenologist-in-Chief, Peter Bent Brigham Hospital
at the New England Center Hospital
Second and Fourth Fridays of each month,
(October through May)
4:00-6:00 P.M.

All medical doctors are invited to attend these X-ray Conferences, sponsored by the Bingham Associates Fund, for radiologists and other interested physicians connected with the Bingham affiliated hospitals in Maine and Massachusetts. Radiologists are invited to attend as frequently as possible, and to bring problem films, or films of particular interest, together with corresponding case histories, for discussion by Dr. Sosman and other radiologists attending the conferences.

A fellowship in the form of travel expenses is available to radiologists from Bingham affiliated hospitals who come to Boston for these conferences.

The first conference in the 1956-1957 series will be held at 4:00 p.m. on Friday, October 26, at the New England Center Hospital.

Sister Elizabeth Kenny Foundation

Post Doctoral Scholarships

The Sister Elizabeth Kenny Foundation announces a program of post doctoral scholarships to promote work in the field of neuromuscular diseases. These scholarships are designed for scientists at or near the end of their fellowship training in either basic or clinical fields concerned with the broad problem of the neuromuscular diseases.

The Kenny Foundation Scholars will be appointed annually. Each grant will provide a stipend for a five year period at the rate of \$5,000 to \$7,000 a year depending upon the Scholar's qualifications. Candidates from medical schools in the United States and Canada will be eligible.

Inquiries regarding details of the program should be addressed to: Dr. E. J. Huenekens, Medical Director, Sister Elizabeth Kenny Foundation, 2400 Foshay Tower, Minneapolis 2, Minnesota.

DEPARTMENT OF HEALTH AND WELFARE Division of Maternal and Child Health (Including Services for Crippled Children)

CLINIC SCHEDULE 1956

ORTHOPEDIC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL
9:00 a.m.: Nov. 5, Dec. 10.
LEWISTON — CENTRAL MAINE GENERAL HOSPITAL
9:00 a.m.: Oct. 19, Nov. 16, Dec. 21.
RUMFORD — COMMUNITY HOSPITAL
1:30 p.m.: Dec. 19.
WATERVILLE — THAYER HOSPITAL
1:30 p.m.: Oct. 25.
ROCKLAND — KNOX COUNTY HOSPITAL
1:30 p.m.: Nov. 14 (Wednesday).
PRESQUE ISLE — NORTHERN MAINE SANATORIUM
9:00 a.m. and 12:30 p.m.: Nov. 14.
HOULTON — AROOSTOOK GENERAL HOSPITAL
9:00 a.m.: Nov. 13.
*BANGOR — EASTERN MAINE GENERAL HOSPITAL
1:00 p.m.: Nov. 15.
AUGUSTA — AUGUSTA GENERAL HOSPITAL
1:00 p.m.: Dec. 27.

CARDIAC CLINICS

PORTLAND — MAINE GENERAL HOSPITAL

9:00 a.m.: Will be held every Friday with the exception of holidays.

BANGOR — EASTERN MAINE GENERAL HOSPITAL
9:00 a.m.: Oct. 26, Nov. 9-16, Dec. 14-28.

CLEFT PALATE EVALUATION CLINICS

PORTLAND — CITY DISPENSARY, 65 India Street
10:00 a.m.: Nov. 20.

PEDIATRIC CLINICS

*BANGOR — EASTERN MAINE GENERAL HOSPITAL
1:30 p.m.: Oct. 26, Nov. 16, Dec. 28.
*FORT KENT — PEOPLES BENEVOLENT HOSPITAL
10:00 a.m.: Nov. 21.
*WATERVILLE — THAYER HOSPITAL
1:30 p.m.: Nov. 6, Dec. 4.

*Several of the Pediatric Clinics, and also Bangor CC Clinics, will be two-session clinics.

BY APPOINTMENT ONLY

TUBERCULOSIS ABSTRACTS — *Continued from page 320*

answer can be given to the question whether the men are homeless because they drink or drink because they are homeless.

There is no easy solution to the problem, and some authorities believe it is impossible to control tuberculosis on skid row without controlling skid row itself. Some of the new ideas under consideration in Philadelphia are a separate alcoholic's court with an associated center for treatment and rehabilitation, municipal public shelters to replace flop houses, certification of lodging houses, and tuberculosis hostels to supply after-sanatorium lodging for homeless men.

One of the greatest needs is to understand the men on

skid row better than we do. It is surprising how little we know about the psychogenesis of skid row personality and the social forces that tend to perpetuate it. The need to study the problem in a systematic way is urgent.

In the meantime, case-finding surveys in police stations, prisons, alcoholic rehabilitation centers and the like will give the richest yield of new significant cases of tuberculosis. While such programs inevitably meet frustrations and neither rid our large cities of skid rows nor skid rows of tuberculosis, they undoubtedly reduce the pool of infected persons and thereby help to control tuberculosis in our cities.



The Journal of the Maine Medical Association

Volume Forty-Seven

Brunswick, Maine, November, 1956

No. 11

The Ways of Life and Heart Disease*

PAUL DUDLEY WHITE, M.D., Boston**

Dr. Drake and my many friends in the Maine Medical Association. I think that my talk may be short enough so that if you have any questions, there may be time enough to ask them of Dr. Meigs. Of course, I appreciate very much this opportunity to come to Maine and speak to so many of you; you are very kind to listen to Dr. Meigs, Dr. Rusk, and myself. Dr. Meigs and I flew down here, arriving with great difficulty, but we have had a pleasant start. And I want to say that I enjoyed the lobster at luncheon very much.

My subject is a big one, but I hope that I can condense it into a plea for a program of positive health. Most of the answers aren't here yet, though we have plenty of questions. It is an exciting time of history in which to live, not only in general, that is in world history, but especially in medicine. We are on the threshold, I think, of some advances that are even more

important than those that have already been achieved.

A few weeks ago, I spoke to the Medical Alumni Association of the Harvard Medical School. They were all doctors, of course, and I thought it was timely to give them some advice for their own health. Similarly your group here containing a good many doctors, may need some advice. Even though what I say may not be the final answer, I think that much of it may be helpful here too. I shall read some of the manuscript† I presented a few weeks ago, with interpolations here and there and a few comments now and then that are not strictly on the subject itself.

"Beginning with the infectious diseases, one after another, of those old time enemies of ours has surrendered to our efforts or is being attacked in a very promising way. We may hope that as William Osler prophesied in January, 1901, preventive medicine in this respect will have yielded great results during the present century. However, we need for several reasons something more than that.

"From my own experience in practice and in public health work during the last forty years, I believe that we should heed the advice of our medical ancestors who apparently knew more, or at least preached and practised

*Presented at the 103rd Annual Session of the Maine Medical Association in June, 1956.

**Consultant, Massachusetts General Hospital, Boston; Executive Director, National Advisory Heart Council; President, International Society of Cardiology.

†This article is being published in the Harvard Medical Alumni Bulletin, October, 1956.

more than we, a program of positive health habits. And it is a matter largely of establishing better habits, not a painful daily or weekly program. This, however, must be positively arranged. It would have to be something of a change from our present custom. The habit of adequate exercise, for example, is just as important, I believe, as one's sleep, one's work, and one's food. We know a thousand times more about diseases than our predecessors did generations ago, but apparently infinitely less about health, at least we seem to, although I dare say, that it is really only a matter of our faulty practice. We could certainly take a page or two of profit from an old volume entitled "The Regimen of Health," translated into English in 1541 at the request of the then victorious king of England and of France, Henry the Eighth, from the teachings passed down through the preceding centuries from the world's first medical school at Salerno, which was established there at Salerno about the year 1000 A.D. The first faculty of this school consisted of an Italian, a Greek, a Jew and an Arab, putting together the medical knowledge of the day. In 200 or 300 years, that school apparently went out of existence, for nobody in Salerno when I was there twenty years ago had any idea where the school had been located. This was long before the bridgehead in World War II was established there, and the medical heritage went on to northern Italy, to Bologna and Padua. Bologna is still going strong; it will be 800 years old in two years, as it was established in 1158. Padua is where William Harvey went to study in 1600 and learned about the circulation of the blood; if he hadn't had that instruction at Padua he might not have discovered the circulation of the blood.

"Now, I do not mean to say that we should become fanatic on the subject. We must use common sense and try to strike a balance between oversolicitude about our health decried over two millenia ago by the Greek philosophers and our almost total neglect today, as indicated by the general disregard even for their own health by the medical profession in this country at present."

"Let me quote for a minute on both scores from the Dialogues of Plato, written about four hundred years before Christ:

'Well, I said, and to require the help of medicine, not when a wound has to be cured, or on occasion of an epidemic, but just because by indolence and a habit of life such as we have been describing, men fill themselves with waters and winds, as if their bodies were a marsh, compelling the ingenious sons of Asklepios to find more names for diseases, such as flatulence and catarrh; is not this, too, a disgrace?

'Yes, he said, they do certainly give very strange and newfangled names to diseases. (And that still goes on, I might add).

'Yes, I said, and I do not believe there were any such diseases in the days of Asklepios.

'Bear in mind that in former days, as is commonly

said, before the time of Herodicus, the guild of Asklepios did not practice our present system of medicine, which may be said to educate diseases. But Herodicus, being a trainer, and himself of a sickly constitution, by a combination of training and doctoring found out a way of torturing first and chiefly himself, and second the rest of the world.

'How was that? he said.

'By the invention of lingering death; for he had a mortal disease which he perpetually tended, and as recovery was out of the question, he passed his entire life as a valetudinarian; he could do nothing but attend upon himself, and he was in constant torment whenever he departed in anything from his usual regimen, and so dying hard, by the help of science he struggled on to old age.

'A rare reward of his skill

'Asklepios did not instruct his descendants in val-tudinarian arts because in well-ordered states individuals with occupations had no time to be ill. If a carpenter falls sick, he asks the doctor for a rough and ready cure — an emetic, or a purge, or a cautery, or the knife — these are his remedies. Should any prescribe for him a course of dietetics and tell him to swathe and swaddle his head, and all that sort of thing, he says he sees no good in a life spent in nursing his disease to the neglect of his customary employment; and therefore bidding good-bye to this sort of physician, he resumes his ordinary habits, and either gets well and lives and does his business, or if his constitution fails, he dies and has no more trouble.'

"In commenting upon this in 1939, I wrote what of course comes to mind today, namely, that there must be a sensible middle course taking advantage first, naturally, of all the routine public health measures that have been introduced to protect us, and secondly, otherwise establishing habits of positive health, free of val-tudinarianism, that can add at least to our comfort and very well may materially reduce some of the common threats of today, such as hypertension, coronary thrombosis, and the psychoneuroses, although much research still remains to be done in detail concerning their efficacy.

"Let me quote from that paper of mine, published in 1939:

'That old Asklepiian practice (of carrying on one's occupation despite some illness which in those distant days was incurable) certainly represents one extreme of medical care, or perhaps better called lack of care, but I rather suspect, in fact I am quite sure, that the 'new medicine' that Plato ridicules and which is current in our own day represents the opposite extreme, probably equally pernicious. We have become soft and careless in acquiring many of the ills of mankind, except for infections upon which we have concentrated largely to the exclusion of other disease prevention, but once we have acquired these ills, we are prone to yield to them

and to live lives of apprehension and invalidism. There must be a happy mean.

'It is almost certain that our forbears practiced far better than we, various rules of health that tend to delay or to prevent the so-called degenerative diseases of middle age, though vast numbers did succumb at early ages to the infections which we can now prevent.'

'Now, let me briefly comment on some of these environmental factors and ways of life which may influence our health. I shall not discuss basic and constitutional factors, which are certainly in many instances of great importance, but about which we can ourselves do little or nothing, such as race and heredity and age and sex. We need many more experts in these fields, especially in the field of heredity. If we believe in a fatalistic way that nothing can be done to counteract unfavorable influences of these factors, life for us all would be grim indeed, but I, for one, feel quite certain that the establishment of common sense positive health measures can, to a surprisingly large degree, not only neutralize but actually transcend the hazards that may be inherent in such basic factors.

'What are some of these environmental factors that may act favorably or unfavorably upon us?

'The first that often comes to mind at this time in mid-century but which actually has been a source of worry to mankind in every generation since the beginning of recorded history is 'stress and strain.'

'We should carefully distinguish in the first place between the stresses of physical, of mental, and of emotional nature. In every case we must consider the host as well as the stress, for there are all degrees of resistance and of sensitivity of the host as well as degrees of the stress itself which makes an analysis of this environmental factor a very complicated problem.

'Physical strain includes, of course, much of the life work of many millions of persons in the world, today, but it has yet to be proved that, barring rare exceptions of extremely strenuous labor and accidents on the job, work *per se* physically hurt a healthy man, woman or child.

'Unhappily, industry and other physical occupations have been blamed (for lack of a suitable substitute for such blame in our way of life today) as the cause of many of the ills, even including coronary atherosclerosis, which in all probability are in no way associated with such physical activity.

'This is a serious error which is still currently practiced today, and for the sake of the future of this country urgently demands correction. Not only is physical work not responsible for most of these ills, but it is probably one of the most potent health habits which we should make full use of, perhaps most of all at older ages, when too many hundreds of thousands of persons are retired to sit in armchairs and to drowse in front of television screens, day after day, and even year after year, both to the detriment of their own health and to that of society which could, with more wise planning,

utilize their experience and their accumulated wisdom often for a good many years more, although perhaps at a decreasing tempo.

'I dare say that the one most important measure to improve and to maintain both the health and the happiness of our old citizens is to keep them working both mentally and physically; this would make unnecessary at least half of all the measures, medicinal, social, economic and educational that are now laboriously being introduced as geriatric devices. Of all my comments today, this, perhaps, is of the greatest importance.

'What I have said about physical work applies, I believe, also to mental work, with one qualification, and that is that some sort of physical exercise should be helpful to the intensive mental worker, both for the sake of relaxation and for the benefit to the whole body of such exercise, which I shall come back to shortly.

'As in the case of physical stress and strain, I don't believe that mental stress and strain hurts a healthy man, woman or child, provided it is not extraordinarily severe or prolonged and provided occasional respites for relaxation are offered, preferably both by physical exercise of almost any sort and by some interesting avocation. This has been our program for the President. I have been accused of wanting to get him on a bicycle, but I haven't actually said that. In fact, he gets enough exercise without that. However, it is the neglect of measures of that type, and overindulgence in other practices that are doubtless the cause of the nervous prostrations, the high blood pressures, and the coronary thromboses that are currently blamed upon the stress and strain of the job, no matter what it is, with possible rare exceptions. What those relationships are, whether there is anything in this, we must find out.

'Thus, it is my experience and hence my belief that hard work, physical or mental, never killed a healthy man. Nor emotional stress, either, with the rarest of possible exceptions. Practically all of the cases that I have heard about who have died under emotional stress (except in the case of suicides) have adequate, underlying physical causes with irritability of heart or brain induced as a final event.

'Let me go back again in history on this point. Three times since the birth of Christ that I know about, the city of Rome has been visited by epidemics of sudden death. I dare say there have been other occasions, too, of which I know nothing. During the first half of the first century A.D., many prominent Romans, political, social and professional leaders, died suddenly and apparently unexpectedly while going about their daily life, as recounted by Pliny, the Elder. Undoubtedly, from the description, most of these deaths were due to coronary insufficiency, but there were no autopsies. Remember, this was at the height of the prosperity of the Roman Empire, and doubtless the senators, the lawyers, and even the doctors had their own chariots and ate more than was good for them.

"In the winter of 1705 to 1706, another epidemic of sudden deaths occurred in Rome, to the consternation of the populace who feared God's displeasure and supernatural causes. However, the combined wisdom of Pope Clement the Eleventh and his physician, Lancisi, resulted in the institution of autopsy study of similar cases during the next winter. Every case so studied demonstrated a natural cause of death, circulatory as a rule, for example, a cerebral hemorrhage or a ruptured aorta. A book resulted from this study dedicated to the Pope and called by Lancisi, *De Subitaneis Mortibus*. Bishop John Wright and I are having this book translated, and we hope some day to publish the translation with an appropriate foreword.

"And now, we come to this last winter. A few weeks ago, when I was in Rome, I was asked to see patients who were fearful of another epidemic of sudden deaths there during the winter. The first, a public official, although not yet a patient, was justifiably worried, for he was a perfect candidate for coronary thrombosis and his electrocardiogram was already abnormal. Advice in time may rescue him if any advice we have today can be helpful. At the time of my visit to Italy early in May, an interesting and beautifully equipped and well-staffed hospital was inaugurated on a remote hillside in South-eastern Italy next door to a monastery which is visited yearly by many thousands of pilgrims from all over the world who come for help, physical and spiritual, to Padre Pio, a Capuchin monk, devoted to the welfare of these pilgrims. Here is an opportunity for the study, as the Pope himself announced, of psychosomatic medicine. Without a doubt, as recognized by our forefathers, the psyche has a very important influence on the soma, just as I am sure the soma has on the psyche, but we are barely at the threshold of knowing how and why.

"In some way, I believe, the bad effects of the alarm reaction, of grief, of fear, of anger, and of pessimism can be neutralized and even superseded by inculcation of the positive virtues of courage, patience and optimism. Although many individuals are born with these traits, others must acquire them and we doctors can help. And so we come to the second important positive aid to health, after that of work, which is that of equanimity.

"As to equanimity, let me quote briefly from William Osler's valedictory address, entitled "Aequanimitas" presented at the University of Pennsylvania on the first of May, 1889:

' . . . a calm equanimity is the desirable attitude. How difficult to attain, yet how necessary, in success as in failure. . . . One of the first essentials in securing a good-natured equanimity is not to expect too much of the people amongst whom you dwell. . . .

'Hence, the need of an infinite patience and of an ever-tender charity toward these fellow-creatures; have they not to exercise the same toward us?

' . . . A distressing feature. . . . which will press hardly upon the finer spirits among you and ruffle

their equanimity, is the uncertainty which pertains not alone to our science and art, but to the very hopes and fears which make us men. In seeking absolute truth, we aim at the unattainable, and must be content with finding broken portions. . . .

'It has been said that 'in patience ye shall win your souls,' and what is this patience but an equanimity which enables you to rise superior to the trials of life? Sowing as you shall do beside all waters, I can but wish that you may reap the promised blessing of quietness and of assurance forever, until within this life, though lifted o'er its strife, you may, in the growing winters, glean a little of that wisdom which is pure, peaceable, gentle, full of mercy and good fruits, without partiality and without hypocrisy.'

"And now, let me introduce, briefly, the more mundane factors of exercise and diet.

"To make the most of our lives in their usefulness, happiness, and longevity, it behooves us to try to ascertain the value of certain ways of life for ourselves, our friends, our patients, and the world at large.

"Much has been said pro and con regarding physical exercise, and we must still await more evidence of its value in the prophylaxis of such bothersome ills today as hypertension, coronary thrombosis and nervous prostration. Studies now going on are beginning to indicate a positive value and many of us hope that some good is being done in the way of preventive medicine in these directions by the establishment of sensible exercise habits, as well as in the favorable effect on the circulation as a whole and in improving digestion and counteracting the results of excessive nervous tension and strains. Good muscle tone in legs and arms and diaphragm without question aids the circulation, and if we avoid sprains and strains and the breaking of bones, we can feel, as I have many times personally, the delightful relaxation that comes with muscular fatigue.

"Some claim that they can live long and healthy lives with very little or no exercise, but I believe that there is a difference between positive health and simply the absence of disease. So strongly am I convinced that exercise in proper amounts (and much more is needed by the mesomorph (broad individual) than by an extomorph like myself) that I am making every effort to get the American youth and middle-aged male back on his feet again. The women don't need exercise so much, although they can profit by it, too. By the time I present these remarks I shall have visited Chicago to take part in the inauguration of several *safe bicycle paths*, prior to the building of a proper path from a suburb into the city, which will enable thousands of persons, men and women of all ages, to cycle to and from work regularly and safely, such as is done abroad, in Holland, Denmark, France and other countries, safely, by bicycle paths in many of those countries. A ride of five or six miles twice a day (and that is too far to walk) will be good for their health and their pocketbooks and for the traf-

fic congestion in the city. There is no reason whatsoever why this cannot be done in nearly every city in the country where, eventually, several paths in each can be built. Of course, this requires initiative, planning and money, but in the long run, it will be more than worth while to establish this routine and practical health measure to counteract, to some degree, at least, the soft push-button way of life that we are threatening to bequeath to our children who will need more than gadgets to survive in this world of tomorrow.

"Incidentally, it is of considerable interest that not only work (physical and mental) is being utilized in the convalescence and rehabilitation of cardiac patients, but even exercise in sports as a therapeutic measure, as noted by Rautmann, in 1954. That paper was sent to me recently; perhaps Dr. Rusk may want to say something about that.

"Although we cannot prove as yet that John Dryden was correct when he wrote about 1680 to a kinsman who lived in the country, a letter in which the following stanza appears, there is, I believe, more truth than poetry involved. I quote:

'By chase our long-lived fathers earned their food;
Toil strung the nerves and purified the blood.
But we, their sons, a pampered race of men,
Are dwindled down to three score years and ten.
Better to hunt in fields for health unbought
Than flee the doctor for a nauseous draught.
The wise for cure on exercise depend;
God never made his work for man to mend.'

"Of course, he didn't care for the doctors of his day, and perhaps he had a right not to care for much of their medicines.

"And now, finally, I would add a word about diet and obesity. Tobacco and alcohol, I shall dismiss with the simple statement that their excessive use can be very harmful and that in the face of certain diseases and disorders they can do damage; their moderate use in healthy persons seems to do no harm. And that's all I am going to say about tobacco and alcohol!

"So far as obesity is concerned, we all know that life insurance and other mortality statistics do definitely point to a decreased longevity and more common illnesses in persons with considerable overweight, but the details of the diet, not the calories *per se*, are now being more extensively studied in researches on man himself.

"The first findings have indicated in several parts of the world in countries where different races or different groups of the same race ingest quite different amounts of fat in their diets that those who are lowest in the economic scale eat the least fat, have the lowest content of cholesterol in their blood serum, and suffer the least from coronary thrombosis.

"My own newest adventure in cardiovascular epidemiological research earlier this spring was as a clinical colleague of Ancel Keys and Bronte Stewart in comparing the Hawaiian Japanese (with origin in Southern

Japan) with the Japanese still living in Southern Japan. Although my own data have not been completely analyzed as yet, and although I have not yet learned what my physiological colleagues found in the comparison of the serum cholesterol contents, it was very clear that the two chief differences in the two groups were that the Hawaiian Japanese ate much more fat and had more coronary thrombosis and at a much younger age, typical of our American pattern."

Dr. Keys and his associate tested 200 normal Japanese living in Hawaii, first or second generation, with origin in Southern Japan. Many of these Japanese had been born in or near Hiroshima. This was the part of Japan from which labor was recruited for the plantations, the sugar cane plantations in Hawaii. I went through the records of the hospital there, in Honolulu, to look for records of coronary thrombosis, and found ample evidence of the disease. There were twenty-four cases in the wards of this small hospital in the last two years; four of these cases were in Japanese males under the age of forty. When we went to southern Japan, to the capitol of the island of Kyushu, we found relatively little coronary heart disease. Their diet is much less rich in fat and their serum cholesterol was lower. They exercised probably about the same in both places. There was one middle-aged Japanese whom I saw in the hospital who had gained forty pounds in the previous few years and had just had a typical attack of American coronary thrombosis.

There was an American marine twenty-five years old, who had an acute coronary thrombosis in the Marshall Islands. The climate, there, is terrific, with humidity at 100 per cent and temperature at 90 or over; even the effort to walk slowly takes much effort. This marine had continued to have the rich marine diet, had gained twenty-five pounds in eight months, and had exercised little or not at all. He then suffered acute coronary thrombosis at twenty-five years of age. Of course, that may not be proof of a direct relationship because one case does not prove the point, but it is very suggestive.

I might say that the only Marshall Islander that I heard of who had been found to have coronary thrombosis was the King of the Islands. I have forgotten his name, but he was very fat and diabetic. I might say then that if a Marshall Islander is to have coronary thrombosis, he must be a King and diabetic and very obese!

Thus is our prosperity endangering our lives, as perhaps did that of the well-to-do Romans in the first century A.D. It may well be so. Studies need to be done, and they can better be done outside the country than inside, because of the leveling off process in the American way of life.

"We may actually enjoy, however, the resumption of vigorous physical exercise, the cultivation of equanimity, and the substitution of an attractive diet such as that to which we became accustomed in southern Italy at 20 to

25 per cent fat for the excessively rich and quite unnecessarily fat-loaded diet of 40 to 50 per cent fat to which we have become increasingly habituated in this country today."

There are the environmental factors, but many of us are safer than others. We must realize that there are basic and constitutional factors that are probably as vitally important as the environmental factors, for not one thing is to blame.

"In closing, I would make two pleas:

"First, for the more adequate support of epidemiological research on man himself to determine more ac-

curately the beneficial or harmful effects of the various ways of life. This is new, difficult and expensive, but we should not avoid the opportunity to determine more accurately the beneficial or harmful effects of the various ways of life.

"Secondly, to urge you, my medical friends, and through you, others, in this country or abroad, to support sensible habits aimed to achieve a state of positive health, even before we have all the proof. We may all be dead before the researches are finished.

"Good health, and a long life to you all!"

Critical Evaluation Of Somatic Therapy In Psychiatry*

LAUREN H. SMITH, M.D.**

Mr. Chairman, ladies, and gentlemen, before beginning the formal discussion may I express a few personal views?

First, I want to thank you for the privilege and the challenge of being included in this program. The program of yesterday was such a wonderful one, the best I have seen in many state meetings. I am glad that we can help represent psychiatry in the program of your State Medical Association. I wish to pay tribute to Dr. Sleeper of your Program Committee. Too few psychiatrists are represented in the activities in State Medical Societies and general medical programs.

Secondly, may I bring greetings from the Council on Mental Health of the American Medical Association. You may have noted in the Journal of the American Medical Association there have been appearing in the last year or two many more articles on psychiatry. This new Council on Mental Health has been active in backing programs of positive therapy throughout the country. The exhibit on alcoholism, here in the hotel, is an example of the interest of the State Medical Association. 65,000 Women Auxiliary members of the various state medical organizations are active in mental health programs. In some ways we may say that 1956 is a "year of decision" in psychiatry.

Third, the advances in psychiatry we now see throughout the United States, at least most of them, are due almost entirely to the scientific advance in professional training, in the skill of medicine, but not due nearly enough to the general study of public support. I note, however, that this is not true in Maine, that not only the medical profession but also the general public have broadly supported a progressive program for mental health. I feel that it is most appropriate to express warm commendation for this sense of responsibility and action.

Today, the topic for discussion is: "Critical Evaluation of Somatic Therapy in Psychiatry." This is of special interest now because psychiatry in the last three decades has moved from a position of ambiguity in therapy to one of channelled activity. Psychotherapy has become increasingly specific, and psychoanalysis, even though charged with exactness, has assumed a definite entity as therapy not to mention its increased impact upon all thought and culture.

It is a little amazing to note that in the latter portion of this period, replete with developments in functional or abstract therapy, we find a particular intensification of study and progress in those therapies primarily directed at the soma itself. It would seem to challenge the newer concepts in dynamics — to refute anew the special power of the unconscious conflict, and to reaffirm the basis of the organic as the causative agent in psychopathology.

A critical attitude will not permit such dichotomy to becloud the scientific horizons too long. There is great

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promise in the correlation of multiple views, not only in physiology but in therapy. This study will not pursue any particular avenue in the direction of any such correlation but will deal directly with effectiveness of present somatic treatment. The answers to that must be based on thousands of research projects, case studies and years of follow-up.

To help strengthen one leg of progress it is indicated to review anew those therapeutic agents and endeavors which strictly affect, stimulate, inhibit, depress or activate the soma in some manner as to establish a change in the existing psychopathology. Such analyses and comparisons may increasingly clarify the meaningful utilization of specific somatic therapy. Our purpose is to advance this goal through a critical account of most of what is known as somatic therapy.

Considered in our critique are only those treatments with which most of us are presently actively concerned, pharmacological and general therapy, psychosurgery, electroshock and insulin therapy.

By far the most dramatic of somatic therapies, electroshock has had widespread use, bringing symptomatic relief to hundreds of thousands since its introduction by Cerletti and Bini in 1938. It is the most significant treatment technique developed in the past 50 years especially in terms of its economic and social benefit.

Electroshock as a term has, in usage, become synonymous with electroconvulsive therapy and refers to the original technique of Cerletti and Bini in which there is the typical electrically induced grand mal type of seizure. With the newer modifications of the stimulus current — often administered far below the convulsive threshold — a new term, ELECTRO-STIMULATION, can serve more to adequately designate this whole group of therapies.

Originally developed for application to schizophrenia, electroconvulsive therapy is now considered the treatment of choice in cases of involutional psychotic depressive reactions. Although slightly less effective it is also applicable to other clinical syndromes manifesting depression or equivalent symptoms. Included here are manic depressive depressions, schizo effective depressions, and neurotic (reactive) depressions. While of value in treating acute schizophrenia and the catatonic state, it is much less effective when applied to the simple and paranoid types. It is quick and beneficial in quieting the overactive and agitated patient.

As an adjunct therapy, electroconvulsive therapy is used in conjunction with insulin: the so-called "combined therapy" (mentioned elsewhere). It is useful intercurrently with psychotherapy in rendering cases accessible by the disruption of obsessive and ruminating patterns, and the softening of defenses.

Care in handling the patient, plus the use of curare, its derivatives, and synthetic curare-like compounds, have rendered treatment orthopedically quite safe. Long bone fractures are rare while the incidence of compression fractures of the spine (2%) are at an irreducible

minimum and seem to occur regardless of efforts to avoid them. Flexible restraint of the patient, rather than any particular position, seems to produce the least musculoskeletal morbidity. The convulsion modifiers — not without dangers in themselves — should be used only when indicated. Indications include active tuberculosis, thyrotoxicosis, and cases of recent coronary thrombosis, cerebrovascular accident or fracture. Thiopentone (Sodium Pentothal®) is often used to allay anxiety prior to treatment, and it is claimed to soften the convulsion; it has no effect on the clinical result whatsoever.

With practically no contraindications (except for severe general physical depletion and severe organ pathology in which any somatic insult might prove deleterious), and an ever-widening area of applicability, electrostimulation has a remarkable therapeutic potential. It has the additional advantages of being inexpensive (after initial outlay), conservative of numbers and time of personnel, and in selected cases it is a suitable outpatient treatment measure.

Statistics vary tremendously, but all agree that electrostimulation is effective in shortening the duration of an episode of illness and of hospitalization.

Collective statistics would show that approximately 86% of involutional depressives and 43% of involutional paranoid cases go to remission. In manic depressive illness remission is obtained in 80 to 100% of depressed, and 70 to 90% of manic cases. In schizophrenia of less than six months' duration, 68% remiss, while only 41% recover with duration of illness from 2 to 24 months. (These figures pertain to status at termination of treatment).

It is generally held that electrostimulation has a beneficial short term therapeutic effect. Evaluations of long term effect tend to show little difference between treated and untreated cases. Psychotherapy and environmental manipulation (both concurrent and subsequent to EST) would be the logical way of lengthening the duration of remissions.

INSULIN THERAPY

Insulin coma therapy has been used in the treatment of schizophrenia for nearly twenty years. The general consensus of opinion is that it is an effective agent in altering the immediate outlook in this disease. The main drawback of insulin coma therapy is its expense, since it requires a minimum ratio of one staff member to three patients to administer it with reasonable safety. Treatments are given five or six times a week for three months, each treatment period taking about four hours. The aim of coma treatment is to produce a daily coma of 1½ to 2 hours of which at least one hour should be in deep coma (stages three and four of Himwich). Hughes in a review of recent literature, found an improvement on recovery rate of 67% immediately after treatment, with follow-up studies indicating that at least 37% of the patients treated hold their improvement for one to five years. At the Pennsylvania Hos-

pital, a follow-up study was recently completed of 781 insulin treated patients followed from one to fourteen years. The immediate result showed 67% improved or recovered. Five years after treatment, 32% of those followed were improved or recovered. Ten years after treatment, presumably because other therapy had been carried on, since we know that 80% of the patients received some kind of in-patient therapy at one time or another during the ten-year period, we still find 32% improved or recovered. But at fourteen years follow-ups showed this reduced to 20%. Less than 20% of the patients remained continuously well without further inpatient treatment after insulin. This is about the same incidence of stable recovery that occurred among hospitalized schizophrenics in the years prior to shock therapies at the same hospital, as reported by Bond. In view of the fact that this therapy has failed to increase the number of relapse-free recoveries, we conclude that its main effectiveness lies in improving the immediate prognosis. It is not effective in preventing recurrences, and in 781 patients from whom reports of 350 first relapses were received, 75% of these occurred within one year of therapy in the Pennsylvania Hospital.

Combined insulin coma and electroconvulsive therapy has been widely used, and with good results. The usual procedure is to give electroconvulsive therapy in addition to insulin to those patients who do not show good response to insulin, especially during the early part of insulin therapy. The apparent effect of EST on patients so selected is to increase the number of favorable responses to treatment to the level of the group which made good progress on insulin alone. Statistically, there was no difference between the final results in these two groups in the Pennsylvania Hospital study.

Is insulin coma therapy so much better than the other somatic therapies for schizophrenia that its higher cost can be justified? Few good comparative studies have been made. Gottlieb and Huston compared three groups of schizophrenics who received ICT, EST and psychotherapy respectively. They found no significant difference between the results of these therapies. Our clinical impression, as yet unsupported by a similar statistical study, is that insulin coma therapy does produce a slightly better and longer lasting remission than does EST. The marked weight gain, the improvement in autonomic function, and the effective experiences of being "brought back to life," fed, and mothered each day seem to be significant factors in contributing to the quality of the remission.

Subcoma insulin therapy has a definite sedative, weight-increasing therapeutic effect. Although it is useful in the hospital management of the undernourished, chronically anxious patient, the need for close nursing supervision during the hypoglycemic period makes this therapy more cumbersome than the usual treatment of such patients by sedation and psychotherapy.

In summary, the insulin therapies have been found effective in producing remissions in the schizophrenias and in the chronic anxiety states. These treatments lack the capacity to alter the internal dynamic factors that predispose these patients to recurrences of their illness. In view of this fact the importance of continuous use of post insulin therapies and psychiatric management in the family setting is obvious.

PSYCHOSURGERY

It is apparent that after more than eighteen years of at times highly charged debate among psychiatrists, neurologists and neurosurgeons, "psychosurgical" procedures became established in the therapeutic armamentarium used against psychiatric illnesses. After probably more than 30,000 operations in this country alone, interrupting nerve pathways of the brain has not become the panacea as championed by some, nor has it produced a grotesque horde of amoral automatons as feared by others. The frequency with which this type of treatment has been used apparently reached a peak in 1949, declining slightly thereafter. What has happened in the last two years I shall mention later.

Whatever the procedure used to interrupt the functioning of the thalamofrontal pathways, the most usual effect is to decrease the tension, anxiety, and dread the patient has; it decreases the patient's self-concern. This has been referred to as "a quantitative approach to the treatment of psychiatric disorders." It is more useful to think of this treatment in terms of decreasing severe crippling fears than as treating a diagnostic category or as a cure for the emotional illness. We have learned to recommend frontal lobe surgery in those cases who have failed to respond to other adequate courses of therapy, including the somatic such as electroconvulsive therapy and who have been chronically crippled by anxiety, tension, fear or self-concern with or without other symptoms. The most spectacular results then (not surprisingly) are found in the incapacitated obsessive-compulsive neurotic who post-operatively usually retains his obsessional thoughts, but is no longer concerned about them. Similarly, the severe hypochondriasis of some patients is also relieved.

However, lobotomy has been done most frequently with the hospitalized psychotic and properly not nearly as much for the neurotic because it is a procedure with attendant operative risk, complications, and personality damage. There is a dulling of social perceptiveness and reactivity, some emotional blunting, loss of initiative and creativeness. These we do not risk without some concern in the neurotic so that the chronic schizophrenic is the largest diagnostic category treated. The excited, assaultive, disturbed patient has a much better chance of a good response than the apathetic or deteriorated one; the catatonic excitements and paranoid reactions do better than the hebephrenics. The agitated involutional psychotic reaction who has not responded to electroconvulsive therapy is a candidate for a lobotomy if his hospitalization becomes prolonged; and he is more apt

to gain a beneficial result than the retarded depression seen in manicdepressive reactions. All these respond better than the manics who do not respond well. We have not found ourselves inclined to recommend its use for the psychopaths, alcoholics or drug addicts.

We have made the above statements with some degree of assurance for they are based on the clinical observations of many of our colleagues who have reported on literally thousands of cases. Most reports reviewed classify results as "much improved" or "good" in about one-third of the patients, but in some reports "much improved" may mean nothing more than living a sheltered existence out of a hospital. To say just how beneficial psychosurgery is we find not easy. Even some improvement is important when one considers the number of patients who might be released from a hospital and who can gain some relief from their psychic tension.

When we read the claims and counterclaims made by the many modifiers of the prefrontal lobotomy concerning their particular modification we are left with the conclusion that the differences are more one of degree than of kind. We now have open and closed, bilateral and bimedial prefrontal lobotomy, transorbital lobotomy, lobectomy, topectomy, thalamotomy, cortical undercutting, ventromedial coagulation, anterior cingulotomy, as well as procaine injections and even transient or permanent frontal lesions by ultrasound. In spite of the many contrasts in these methods which crowd the field of psychosurgery, the results are amazingly uniform. But in 1956 transorbital lobotomy seems to be the most favored method.

To get the most out of psychosurgical procedures as with the other somatic treatments, we must consider many other aspects of treatment than the operation itself. We know that an improved chronic schizophrenic patient, ready to leave the hospital without a home prepared to receive him, is not likely to stay out of the hospital long. Intensive psychotherapy is possible with the patient, but must be modified; indeed we are inclined to agree with Denis Hill who states: "Psychotherapy, certainly of the analytic and probably of the cathartic variety will be for (the lobotomized patient) impossible. But educative and occupational psychotherapy persuasion and the re-establishment of normal and socially desirable methods of obtaining gratification of needs are necessary . . ." We also need all of our resources, all the aids, somatic treatment, psychotherapy and the help of our ancillary services.

So much for a general summary on psychosurgery. Where is it in May of 1956? Dr. Percival Bailey, in the Academic Lecture for the American Psychiatric Association entitled: "The Great Psychiatric Revolution," himself a neurosurgeon, stated: "The great neurosurgical revolution has proved abortive — it has not emptied our hospitals." Another neurosurgical lobotomy originator and authority was asked how much drug

medication (with or without other aids) had reduced lobotomies, and he replied: "At least 90%."

PHARMACOLOGICAL AND GENERAL THERAPY

There are many ancillary somatic treatments employed so commonly in psychiatry and taken so much for granted that their real value in the management and comfort of patients is often overlooked. This group of therapies is seldom definitive, but it is adjunctive in the majority of hospitalized patients.

Perhaps the most important and certainly the most commonly employed members of this ancillary group are the sedatives. We need not pass any comment on their worth, which has been well established. We feel that the most useful sedative in a psychiatric hospital is Sodium Amytal,⁸ which is now prepared commercially for every type of administration. This drug meets five very important qualifications:

1. Quick action.
2. Strength of sedation.
3. Relatively large margin of safety.
4. Rapid elimination, hence little cumulative effect.
5. It produces very little confusion.

These five requirements are not as well met by any other member of the barbiturate group. If psychotic patients are to be sedated, the indications are usually for a strong, quick-acting drug.

For mild, continuous daytime sedation, phenobarbital by mouth is perhaps the drug of choice. There are relatively few important contraindications to the use of Sodium Amytal⁸ or phenobarbital. Patients who are habituated to alcohol or the barbiturates usually do not respond well to their use, having a high tolerance, and drugs belonging to other pharmacological groups should be used. We have found paraldehyde and chloral hydrate to be the most useful in such cases.

Where there pre-exists any tendency to mental confusion, such as in the organic syndromes of the aged, we have found it wise to be extremely cautious in the prolonged use of phenobarbital. There is a likelihood that the effects will be additive, and confusion may be increased. Many of these patients are disturbed *because* they are confused, and any drug or procedure that might increase confusion will increase their agitation.

Particularly since the last war, many new drugs have been introduced in the sedative field. We have not found that any of them have marked superiority over the drugs mentioned above.

There are two special uses of Sodium Amytal⁸ which should be mentioned. The first of these is prolonged narcosis therapy, which had its greatest use in the middle '30's, and is still occasionally used. This procedure is difficult, dangerous, expensive, and requires a large staff. Patients undergoing narcosis must have individual professional attention twenty-four hours a day for the week or ten days the treatment is in process, they must be in excellent physical condition, and the incidence of serious complications, such as aspiration pneumonia,

is relatively high. Its principal use is in the hyperkinetic, acute syndromes, such as severe mania, severe agitated depressions, and acute catatonic states. These conditions usually respond quite readily to electroshock, where the risk to the patient and the expense to the hospital are much less. Occasionally prolonged narcosis may be used as an aid in transporting an exceedingly active patient over a considerable distance. Its use is not contraindicated by air evacuation.

The second special use of Sodium Amytal[®] is the amytal interview, which proved a very useful therapeutic tool during World War II. Its chief therapeutic effect is based on the abreaction produced in acute traumatic neuroses and psychoses as soon as possible after their onset. The longer the delay between the precipitating trauma and the abreaction, the less useful the latter becomes. We have found the amytal interview of relatively little therapeutic value in civilian psychiatry, where the trauma is usually much less severe and acute, and the interval between onset and treatment is usually greater. At times, we have used the amytal interview to good purpose for diagnostic or informational reasons.

An experiment done at the Pennsylvania Hospital in 1946 and 1947 indicated that at times the amytal interview may provide important prognostic material. However as treatment its use is extremely limited in ordinary hospital practice.

Intravenous ether has also been used as an abreagent. It is much harder to employ, is riskier, and does not show any marked advantage over Sodium Amytal.[®]

We do not feel that alcohol or the addicting drugs have any place in sedation, even under close medical supervision. This, of course, does not exclude their use as analgesics. For many years bromides in various combinations have been used as sedatives. We do not believe that they have any place in today's therapeutic armamentarium. There are too many undesirably cumulative effects from the bromides to justify their use now that safer, more effective sedatives are available.

Perhaps at the other end of the therapeutic scale from the sedatives are the stimulants, typified by the benzedrine group and thyroid. Our experience has been that this group of drugs is not of particular value as euphorants in psychotically depressed or underactive patients. Their use with out patients exhibiting a milder degree of depression or retardation is at times worth while, however. Meratran[®] and Ritalin[®] are new prescriptions now being tried along these same lines.

Nicotinic acid in large doses, either alone or in combination with metrazol, is employed with patients showing impairment of cerebral circulation. Depressed or agitated seniles or arteriosclerotics are sometimes benefited by this treatment, when electroshock is contraindicated. The effect of nicotinic acid therapy in such patients is not extreme, but is often definite.

Chlorpromazine has not been in widespread use long enough for us to give a final estimate as to its value.

It seems to have a moderate tranquillizing effect in overactive syndromes, such as agitated depressions and manias. Results with retarded depressions and underactive schizophrenias have not been noticeable. The drug may be given orally or parenterally, and usually has to be administered for several weeks before there is any noticeable effect. It produces physical side reactions in a number of cases, so that it must be administered under fairly close medical supervision, particularly in the initial phase. It seems likely the chlorpromazine may find a permanent place, particularly in those cases where other types of sedation or electroshock are contraindicated. For example, we have found it of benefit in severe cardiacs who are agitated or manic, where electroshock could not be used. It would not appear that this drug will replace electroshock to any great extent. Reserpine[®] (*rauwolfia serpentina*) seems to have less effect than chlorpromazine on the patients' psyche; its effect is slower in appearing but is more sustained. We are not sure that either of these has successfully aborted an attack, they can best be used in syndromes whose natural history indicates a spontaneous remission, such as periodic attacks of excitement or agitation. They contribute to the comfort of the patients, make them easier to handle from the hospital's point of view, and potentiate other sedatives.

During the 18 months after the foregoing comment was made there have been many research and clinical meetings in which numerous reports on the new drugs have been made. There is much which may be summarized today.

The treatment of alcoholics has been definitely simplified, reducing states of excitement and relieving anxiety tension. Catski reports aggressive delinquent children become calmer, cooperative, and more communicative.

At St. Elizabeths Hospital, Overholser reports extensively on the use of chlorpromazine and Reserpine.[®] About 10% of the patients receive one of the medications. They remain clothed, have an interest in their appearance, are receptive and cooperative, and demand more activities. "The patient will talk." "Drugs have made the hospital a medical institution again."

Significant statistical figures have been printed in the New York Times on April 13, 1956:

"The Governor announced a halt to the 'staggering increase' of about 2,400 patients a year. In the year ended March 31 there was a decrease of about 500 new patients, he said. At the same time he attributed to new treatment techniques a 20 per cent increase in the number of patients released.

A spokesman for the Department of Mental Hygiene in Albany mentioned the use of new so-called tranquillizing drugs, such as, chlorpromazine and Reserpine,[®] and of more widespread therapy as the 'probable' reason for the lowered hospital population."

In general there is agreement that chlorpromazine is most beneficial in those patients without anxiety, tension and of the disturbed type; reserpine is beneficial in organic and arteriosclerotic patients, and is slower and somewhat cumulative.

One psychiatrist commented on how well these two drugs work together.

At the May 1956 meeting of the American Psychiatric Association several clinical papers reported in detail on the general effect of the drugs and their side effects. Side effects are not common, but must be watched for in all patients. Included in these with chlorpromazine are fever, photosensitively erythema, agranulocytosis, hypertension, depression, swelling of the breasts, jaundice and Parkinsonism. Also with reserpine are included edema of the glottis, Parkinsonism, and it is contraindicated in the presence of gastric ulcer.

Miltown[®] and Equanil[®] (Meproamate) have similar therapeutic effect, but with less affect, and fewer side effects.

Frenguel[®] was also reported on but most observers find it having unusual effect.

Promazine[®] now appears on the market. From the information furnished us so liberally by our pharmaceutical friends, I gather it is chlorpromazine minus the chlorene radical.

In looking at these drugs from the general medical standpoint, I believe we should point out to doctors in general that they are not cures, that they may be able to attack or break up a condition, or abort the illness, but they do not necessarily add anything to the factors back of the illness nor correct maladjustment factors in the setting from where the person with the illness came. We have to do things in the hospitals and in the community of the preventive sort to correct conditions back of the origin of mental illness. We must aid general practitioners as well as our own students in psychiatry to apply these new treatments as assistants and modifiers. They provide accessibility to psychotherapy and are emergency measures and short term crutches. We must educate anyone outside the field of psychiatry who may be using, or who will use, these medications that they are useful in addition to what they may be doing in the way of therapy, but not to abandon them just because by themselves they are not miracle drugs.

At least we can say, at this time, that these medications do affect new patients and old patients in new ways, and that we should have a constructive growth in both research and clinical progress that will add perhaps another 5 to 10% therapy to the whole field of psychiatry where we need it so much. They will not empty our hospitals, but they will aid us in treating better more patients, and in making our institutions better hospitals.

This extensive interest in drug therapy aspects of

somatic therapy may be quite appropriate and timely. The continued research and study necessary here is obvious. However, even more important is an acceleration, stimulation and restudy of the standard forms and practices of hospital therapies in general, as well as psychotherapy, extramural, but especially that which is intramural.

This was well stated by one of our elder statesmen of psychiatry recently in a paper given at this year's meeting of the American Psychiatry Association. Dr. Earl D. Bond urged the continuation of the concept of kindness and respect for the patient, combined with enough space, enough doctors, nurses and attendants, to give patients highly individualized treatment. He mentioned that the public and the legislatures would be misled if they let the new "wonder drugs" serve as an excuse for neglecting basic healing forces that have stood the test of time for one hundred years. As he remarked "the old therapeutic forces do not fight the new but can make them more effective." It is obvious, therefore, that with these new therapies we have an opportunity to have them go hand in hand with the basic principles already known in functional therapy.

To carry out the successful functional therapy in our institutions today our greatest difficulty is the problem of personnel. Patients benefited by specific somatic therapy today are more able to get along with each other and with their families, to understand and take advantage of treatments made available by their professional therapists. It follows, therefore, that the greatest immediate need is to recruit more trainees in psychiatry, psychiatric nursing, psychiatric social work, etc., so that in clinics and hospitals we may more adequately utilize the new advantages we see on every hand.

The important thing in the treatment of patients — of getting people who are mentally ill well — is not shock or drugs, helpful though they are, it is personal — the hospital setting — the contact of personalities — of those trained in understanding the mentally ill, and participation of all those who can help most through personal intimate constant contact.

In general, each somatic treatment has been discussed, its relative value has been pointed out. In summarizing we may say that some new pharmacological preparations are dramatically altering mental and emotional conditions. That electro-stimulation continues to hold treatment promise for depressive states. That insulin therapy retards schizophrenia and aids psychotherapy. There may be some similarities in these treatments, or conflicting statistical results, but in general all the results are worthwhile. In time research will tell us more and aid us in refining techniques of treatment.

Today, in psychiatry, I like what I see happening. It is energetic and hopeful, and many of us are interested in further advances in therapy and believe now, more than ever before, that psychiatry is a field of positive therapy.

Concepts Of Inhalation Therapy 1956*

CURTISS B. HICKCOX, M.D.†

and

JACOB FRIEDMAN, *Oxygen Therapist*‡

It is my aim today to review with you the progress of the past decade as it relates to inhalation therapy. This then means the post World War II period but it is apparent at once that the changes seen in the period will represent investigative and clinical research of a preceding decade. Specifically we can refer to the pre-war period, the years of World War II and the post-war era.

In the pre-war period 1930-1940 oxygen therapy grew from infancy to early adulthood and was recognized as a service which did not easily fall within any particular branch of medicine. It was often found assigned to the Nursing Service, to the hospital orderly staff, the Medical, Pediatric or Surgical Departments. In the middle of this period anesthesiologists began to appear on the scene and since in this part of the country most hospitals had morning operating schedules these practitioners often had free time in the afternoon for other practice. Familiarity with anesthetic equipment led to a natural interest in apparatus for administering oxygen whether by mask, catheter, or tent. During this period then there was a trend in which anesthesiologists either accepted complete responsibility for oxygen therapy service in a hospital or community, or supervised and trained technical personnel for planned service. Much stimulus for improved service came from the manufacturers who produced oxygen or equipment for its use. Toward the end of this developmental period physicians generally appreciated the need for a more scientific approach in the medical use of oxygen and articles in the medical journals as well as complete books on the subject began to appear.

As our country prepared itself for war many problems relating to oxygen utilization by humans during military life had to be solved as quickly as possible. Physiologists and others in the special field of Aviation Medicine were faced with the problems of high altitude flying for thousands of our young men while those in the Navy were presented with problems of oxygen supply and carbon dioxide removal as one small phase of submarine warfare. Underwater demolition teams presented other related problems which were solved by combined military and civilian effort.

During the war years our methods and equipment for treating patients with anoxia did not change much since most reports were classified, but by 1946 a vast amount of information was available concerning research done for the armed forces. Improved apparatus was soon available and the men who had been responsible for it were returned to civilian pursuits.

The post-war period is just a decade old and you have witnessed many changes in the practice of medicine, particularly in our hospital care of patients. It is this phase which we will consider as it pertains to patients with acute or chronic anoxia. The terms anoxia, oxygen want and hypoxia are all in general use and can be used interchangeably. Strictly the term anoxia means "without oxygen" which is not compatible with life so Wiggers⁽¹⁾ suggested the word "hypoxia" as more nearly describing the situation when tissues fail to either receive or utilize an adequate amount of oxygen.

The classification of anoxia for years had been the classical one of four divisions (anoxic, anemic, stagnant, and histotoxic) but Comroe and Dripps⁽²⁾ and Saklad⁽³⁾ have recently suggested a working classification which is based upon the etiological circumstances of each division and therefore perhaps a more logical approach to therapy.

ETIOLOGY OF ANOXIA

1. Atmospheric Changes
2. Obstruction of the Airway
3. Respiratory Insufficiency
4. Cardiovascular Insufficiency
5. Interference with Utilization of Oxygen by the Tissues
6. Excessive Demands by the Tissues for Oxygen

1. *Atmospheric Changes*: This may be caused by ascent to high altitudes where the total gas pressure and hence the oxygen pressure is subnormal. At sea level the atmosphere may be changed by dilution with other gases as in anesthesia or in smog troubled London or Los Angeles. Lack of ventilation in closed spaces may also lead to low oxygen and the infamous Black Hole of Calcutta reminds us of the potentially fatal end result.

2. *Obstruction of the Airway*: This may also be called tidal anoxia and is the result of a decrease in oxygen uptake by tissue due to interference with respiratory exchange. Its occurrence may be associated

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with a foreign body in the airway, or with blood or secretions in the tracheo-bronchial tree; it may occur in the presence of severe infection of the lower respiratory tract, as a result of tumors either intrinsic or extrinsic, or due to narrowing of the airway by bronchospasm or pulmonary edema.

3. *Respiratory Insufficiency:*

(a) *Structural and Neuromuscular:* This may be secondary to peripheral disorders, as in anterio-poliomyelitis, neuritis, phrenic nerve paralysis, myasthenia gravis, or to the administration of relaxant drugs in anesthesiology. The integrity of the chest wall may be lost due to crushing injuries or thoracoplasty, or during thoracic operations. The lungs themselves may collapse as in pneumothorax, either spontaneous or operative. Tumors or pleural effusion may embarrass respiration by simply occupying space and compressing lung tissue. Finally adhesive pleuritis may restrict normal expansion of the lung and chest wall.

(b) *Restrictive:* Pulmonary fibrosis from any cause diminishes the amount of functioning lung and interferes with mechanics of respiration.

(c) *Obstructive:* Emphysema and asthma which may occur singly or together lead to alterations, particularly in the expiratory phase, and eventually to permanent damage of pulmonary structures.

(d) *Distributive:* (Poor intrapulmonary gas mixing) Emphysema with its distension of alveolar sacs prevents normal mixing of the inspired gases and elimination of waste carbon dioxide.

(e) *Diffusional:* This is evident in pulmonary edema of all types, infection with exudation into alveoli, in pulmonary fibrosis and scleroderma, and in pulmonary granulomatosis.

4. *Cardiovascular Insufficiency:*

(a) *Venoarterial Shunts (Right \rightarrow Left):* Perfusion of poorly ventilated alveoli as in pneumonia or emphysema as well as in certain types of congenital heart disease (tetralogy of Fallot) or in pulmonary hemangiomata.

(b) *Anemia:* Acute and chronic anemia will lead to a decreased amount of oxygen-carrying hemoglobin. In methemoglobinemia, sulfhemoglobinemia and carbon monoxide poisoning there is also an inadequate transport of oxygen by the red blood cells.

(c) *Diminished Blood Volume:* Hemorrhage or malignant disease may alter the red cell and plasma fractions and lead to a decrease in the total amount of circulating blood.

(d) *Diminished Velocity of Blood Flow:*

Local: Peripheral Vascular Disease, Coronary Artery Disease, Cerebral Thrombosis or Vasoconstriction of a part due to intense cold or embolus.

General: Shock or Congestive Heart Failure as well as Hemorrhage may grossly slow the rate of blood flow.

5. *Interference with Utilization of Oxygen by the*

Tissues: Even though arterial blood may be fully oxygenated and cardiac output normal, tissue anoxia may occur.

(a) *Diminished diffusion from capillary to tissue cell:* tissue edema.

(b) *Depression of Cellular Activity:* Deep anesthesia, acute barbiturate poisoning and alcoholism may depress dehydrogenase systems in a reversible fashion.

(c) *Inactivation of Enzyme Systems:* Cyanide inactivates cytochrome oxidase.

6. *Excessive Demands by the Tissues for Oxygen:* Fever, burns and hyperthyroidism call for abnormally high amounts of oxygen.

Pathological effects of oxygen want are widespread, affecting every system of the body and leading to changes in all vital organs. Body chemistry and physiology may be altered to the point of tissue damage if the condition is unrecognized and untreated. Oxygen deprivation sets up a train of bodily responses that are readily recognized. One must not confuse these signs with those of the disease under treatment and oxygen insufficiency as a by-product of disease should not be overlooked since the combined effects of the disease itself and associated oxygen starvation may be too great for the patient to overcome.

In conditions of oxygen want the train of events becomes evident and one may observe the progressive appearance of symptoms. Symptoms depend upon several factors such as speed of development of oxygen want, mechanism of its development and condition of the patient. If oxygen want occurs rapidly many early signs will be lacking and those of advanced severity are immediately apparent, eg: foreign body in larynx. The mechanism by which anoxia occurs is important in the development of symptoms. The appearance of the patient and his circulatory and respiratory response will be quite different when acute respiratory paralysis of poliomyelitis is compared with chronic changes associated with congestive heart failure. The general condition of the patient will have an influence upon the time of appearance of symptoms and the degree of response. The older patient with a poor cardiovascular and respiratory reserve will react quickly to small changes in oxygen supply and may exhibit signs of acute want as a result of his inability to compensate.

Oxygen want has been arbitrarily graded as to the degree of depletion and the symptomatology to correspond is as follows:

HYPOXIA, GRADE I: Overconfidence, restlessness, nausea, headache, impaired judgment, impaired vision, dizziness, weakness, increased respiratory rate, increased pulse rate.

HYPOXIA, GRADE II: Vomiting, anxiety, muscle incoordination, twitching, elevated temperature, mental confusion, marked increase in respiratory rate, rise in blood pressure, air hunger, cyanosis.

HYPOXIA, GRADE III: Unconsciousness, convulsions, slow, full and bounding pulse, slowing respiration, irregular respiration, fall in blood pressure, cyanosis.

HYPOXIA, GRADE IV: Coma, respiratory arrest, circulatory collapse, asphyxia pallida.

THERAPY OF ANOXIA

Therapy of Anoxia: In the discussion of treatment it should be noted that in the pre-war period the administration of oxygen was frequently regarded as a last resort procedure reserved for moribund patients. The availability of oxygen and therapy apparatus has led to a tendency to give oxygen to many patients who do not have anoxia as part of their disease. Thus the pendulum has swung widely and the physician in practice should ask himself, "does this patient present acute or chronic anoxia?" and if the answer is in the affirmative the next question will be, "what type of therapy is indicated?" In chronic anoxia there is some controversy concerning the desirability of therapy but in the acute phase oxygen is essential. Let us consider some of the problems we see today in our hospitals.

If we start in the obstetrical division one observes women in labor and frequently during a rapid second stage there may be signs of fetal distress. Oxygen administered to the mother from the anesthetic gas machine or any other source will usually lead to improvement in the fetal heart rate until delivery is accomplished. In the presence of premature separation of the placenta, with or without severe hemorrhage, oxygen may be needed acutely by the fetus until delivery. For the newborn it is felt that oxygen should be immediately available in every delivery room to help tide over the interval of adjustment between intrauterine and extrauterine life. Gentle aspiration of mucus and fluid from the airway, warmth, and oxygen for insufflation of the lungs when necessary are the three cardinal points in any program of resuscitation for the newborn.

The premature infant has been of special interest for several years since survival so often depended upon early resuscitation and frequently a high oxygen atmosphere was thought to be necessary for an extended period. In recent years however the occurrence of retrolental fibroplasia has been observed to be associated with prematurity, and evidence has been accumulating to incriminate the use of high concentrations of oxygen administered over a prolonged period of time. Since the ultimate result of the disease is blindness the problem is serious. In Connecticut a year ago there were 100 pre-school children registered with the State Board of Education of the Blind and the leading cause of blindness in this age group was retrolental fibroplasia. The Connecticut State Board of Health in 1955⁽⁴⁾ recommended that certain policies with respect to oxygen administration to premature infants be adopted:

1. That oxygen be prescribed for individual infants

by the physician on the basis of clinical symptoms, particularly cyanosis.

2. That oxygen be administered in concentration not exceeding 40%.

3. That the actual concentration of oxygen during administration be checked by measurement with an oxygen analyzer at least every 8 hours.

4. That the indications for continued oxygen therapy (beyond three days) be re-evaluated by the physician daily.

5. That infants who continue to receive oxygen beyond the three day period have their eye grounds checked by an ophthalmologist. (Ideally, all premature infants should be so checked).

6. That there be a gradual diminution of oxygen supply and not any sudden withdrawal of oxygen when infants have been in an atmosphere of increased oxygen.

In line with these recommendations Hartford Hospital changed the oxygen apparatus in the premature and recovery nursery for newborn infants so that not more than 40% concentration can be administered.

Before leaving the obstetrical division it is worthy of mention that a recovery room or critical care area has been set aside for newborn infants who show signs of respiratory or circulatory distress regardless of their size or stage of development. This area adjoins the premature nursery and its purpose is slightly different. The duration of stay is from a few hours to a day or two. The aim is to increase the neo-natal salvage by closer observation and continuous care by a small group of trained nursing personnel who have no other duties. Almost all of the newborns admitted to this area receive oxygen, not exceeding 40% concentration. Since its inception in 1953, 621 babies have been treated in this unit which is adjacent to the delivery rooms.

Recently in the same section and adjoining a four bed labor room a recovery room for mothers immediately following delivery has been opened. With the delivery rate averaging 600 per month and only five regular delivery rooms available it has not been feasible to keep each mother on the delivery room table for immediate post-partum observation and care, nor has it been possible to offer ideal care in the patient's own room. The recovery room is equipped with piped central oxygen and suction outlets set into the wall at about eye level. Patients are placed on large crib-sided stretchers or in a bed and apparatus for oxygen administration and suction can be quickly and easily attached. In the event of shock, hemorrhage, depression from analgesic or anesthetic drugs, or cardiopulmonary distress oxygen by nasal catheter or mask can be started without delay. It is predicted that morbidity can be further lowered by this plan for closer observation and care by nurses and physicians.

In the operating and recovery section oxygen is used around the clock, and originates from a manufacturing unit in the basement of the hospital. Storage is in a bank of cylinders located outside the hospital

building, arranged in two sections so that when one section becomes empty, the other automatically begins to supply the distribution system at a predetermined pressure of 50 pounds. Oxygen is piped throughout the hospital so that approximately 50% of all beds can be supplied. For those not easily reached by pipeline, a tank on rolling carriage plus reducing valve, flow meter and catheter or mask is necessary.

Each of the 19 operating rooms has piped oxygen, nitrous oxide and vacuum or suction, as do two sections in the anesthesia preparation room. The recovery room in the operating section has wall outlets for oxygen and suction along the wall at 4 foot intervals in a chair-rail type of installation. This arrangement permits an unlimited supply of oxygen almost at arm's length without any problems of personnel for transportation of tanks or apparatus. Nasal catheter administration is the most commonly used method for patients in the post-operative period but other apparatus is at hand, for example, a bag and mask is connected to one flow meter at all times for the occasional emergency of acute cardiac or respiratory insufficiency. A patient on a stretcher can be moved in a matter of four or five seconds to this apparatus which is in the center of the room. Other apparatus includes disposable face masks, an infant incubator for newborns who have been operated upon, an open top oxygen tent, for small children particularly, and apparatus for resuscitation or oxygen therapy through a tracheostomy tube.

There is much interest today in mechanical devices which will ventilate patients who have respiratory insufficiency from disease or who may be undergoing surgical procedures in which respiration may be inadequate or abolished. Since it is impractical for a team to operate within a pressurized room or upon a patient in a tank type respirator it was logical to devise machines which could exert intermittent positive pressure within the patient's respiratory system to simulate the inspiratory phase of respiration. The elastic recoil of the patient's chest wall or a negative pressure phase permits the expiratory phase. By interposing an anesthesia machine which supplies anesthetic agents and absorbs waste carbon dioxide the anesthesiologist now has a system which can adequately ventilate most patients. This in 1956 allows the surgeon to roam almost at will through the cranial vault, the thoracic cage and even to open the chambers of the heart if another machine for oxygenating and pumping the circulating blood is available. Complex electronic apparatus for measuring oxygen saturation and carbon dioxide level in the arterial blood and for metering out anesthetic agents as indicated by continuous electroencephalographic recordings have already been used clinically but it appears that the thinking anesthesiologist can do a better job than the electronic tubes and transistors. There is a need, however, for better monitoring equipment during anesthesia and operation which will record visually and continuously vital measurements

which will be more sensitive and valuable than our present day rough mechanical calculation of pulse rate, blood pressure and respiratory activity. Precise measurements of blood or tissue oxygen and carbon dioxide, velocity and volume flow in the trachea, continuous blood volume or perfusion of organs — all these and many more in the hormone and enzyme systems may be in the technical development of medicine and surgery within a generation.

The Jefferson Ventilator is one example of a machine in use today to artificially ventilate patients during operative procedures. It supplies a positive and negative pressure respiratory cycle which can be altered in phase and rate and the pressures can also be altered. The machine is activated by compressed air or oxygen; thus, there is no motor which might introduce fire or explosion hazards in the operating room. This apparatus offers the anesthesiologist a helping hand in cardiopulmonary operations and in certain difficult abdominal procedures, it may prevent fatigue in patients during long procedures, and may allow better operating conditions with smaller amounts of anesthetic agents. This occurs along with adequate ventilation of the patient and thus a better mechanical system for the transport of oxygen to tissues if circulation is not impeded by improper use of the ventilator.

In special procedures as bronchoscopy for a patient with poliomyelitis or one with extensive chest injuries we have used the cuirass abdominal-chest type of respirator which permits adequate mechanical ventilation by negative pressure applied to the external surface of the abdomen and chest while the operator performs the procedure with greater safety but without haste. Oxygen may be administered as needed through the bronchoscopic equipment by insufflation.

In many hospitals resuscitation and inhalation therapy has been organized and supervised by anesthesiologists, particularly when coverage extends over each twenty-four hour period. The anesthesiologist daily and hourly is faced with problems of airway and oxygen transport thus it is logical to extend his service to patients throughout the hospital. At Hartford Hospital since 1936 the Department of Anesthesiology has accepted the responsibility for inhalation therapy and resuscitation, and residents have included this service as part of their training. Blood banking and intravenous therapy are other ancillary services which have gravitated into the department to the satisfaction of the administrative and professional staffs. The inhalation therapy service is covered by three experienced technicians for fifteen hours each day. A staff anesthesiologist is on duty in the hospital around the clock and is immediately available for consultation or therapy. This arrangement is not perfect but does offer continuity of service. The requests for service have increased each year and the major problem has been that of supplying qualified technical personnel to meet the demands of an expanding and changing service. For example, during the

past year the use of oxygen by intermittent positive pressure apparatus has increased to the extent of 20 or more treatments in one day. The eventual aim is to have at least one qualified inhalation therapy technician on duty during each eight hour period of the day.

Turning to the medical division of the general hospital one finds many patients who may benefit from oxygen inhalation. Here the various types of anoxia, except atmospheric, may be easily found. Rather than review each type and describe therapy it is my aim to talk with you about the changes in treatment which have been observed or tried in the post-war period.

Oxygen tents which formerly were cumbersome, noisy, closed in and often inefficient now have become models of modern engineering. Sealed motors and electrical refrigerating units in compact cabinets allow quiet and complete air conditioning with room air plus efficient production of atmospheres with 40 to 60% concentration of oxygen. High humidity to the point of complete saturation without wetting the patient has been accomplished and is beneficial for the patient with infection and thick secretions in the airway. For the asthmatic patient the production of an atmosphere which is free of pollens yet with a comfortable temperature and humidity is so pleasant that patients become attached to their tent and do not wish to be weaned away from it. There has been a gradual trend in our area away from aerosols and detergents since the advent of true high humidity and fog. The antibiotic agents are preferred by parenteral or oral route generally.

Intermittent positive pressure breathing of oxygen with a Bennett valve has been employed as a new form of therapy since 1955. Patients with chronic pulmonary dysfunction as in asthma, emphysema and bronchitis, who may get along fairly well until respiratory infection or congestive heart failure precipitates a crisis, will often benefit greatly by intermittent positive pressure breathing for periods of 15-20 minutes every 3-4 hours.⁽²⁾ Some patients with acute myocardial infarction who exhibit severe dyspnea have shown little or no improvement while in an oxygen tent but improved steadily when the IPPB was added to tent therapy. A few patients with chronic pulmonary disease have been admitted to the hospital with acute hypoxia and cyanosis due either to superimposed infection or cardiac failure. Oxygen administered to such a patient in high concentration will frequently relieve the hypoxia but the patient will become comatose, due to high blood and tissue levels of carbon dioxide which occurs with diminished pulmonary ventilation. In this situation the use of intermittent positive pressure breathing in addition to the oxygen tent will gradually allow the patient to eliminate excess carbon dioxide by increasing minute volume and improving oxygen saturation of the blood. There will be slow awaking over a period of several hours to a day and continued treatment may

be necessary for several weeks or more. It is important to remember this cause of coma so that proper treatment may be started, and it is just as important to continue oxygen therapy if unconsciousness occurs so that the brain, heart and other vital organs do not undergo further damage from lack of oxygen.

In the presence of chronic pulmonary disease from asthma with bronchitis and emphysema, bronchodilator drugs are often of value along with IPPB treatment and can be continued almost indefinitely, whereas oxygen tent therapy at home is not always feasible or practical. The apparatus for IPPB therapy may be rented or bought and is simple to operate. Patients frequently become so dependent upon this therapy that they will not travel unless assured of availability of similar apparatus in the event of acute pulmonary dysfunction.

Oxygen therapy on an outpatient basis in the physician's office or in the hospital is a service much appreciated by patients who have chronic disease and are in need of treatment a few times a week. Some will have been recently hospitalized for acute disease and require continued treatment as the pulmonary function improves but residual chronic disease remains.

At Hartford Hospital facilities are available in one location for the care of patients with poliomyelitis. Nursing personnel experienced with contagious and infectious diseases who volunteer for this type of duty are assigned as the need arises. Designation of a single location allows for the centralization of equipment, some of which requires permanent installation. A committee made up of staff physicians and one representative each from the Administration and Nursing Service has been appointed with the specific duty of recommending standards of care and general policy in the treatment of contagious diseases. Since poliomyelitis and similar diseases involving the central nervous system offer the most serious problems, a professional team has been organized to care for patients at the ward service level and is available for consultation. This team consists of internist, pediatrician, otolaryngologist, anesthesiologist, orthopedist, and physiatrist. The anesthesiologist is specifically charged with responsibility for the procurement, maintenance and use of respirators or other apparatus for supporting or augmenting respiration and circulation. He is also responsible for consultation service, in cooperation with an otolaryngologist, for all patients exhibiting respiratory insufficiency.

In the postwar period we have observed changes and improvement in the care of patients with polio, particularly the severe types with muscular weakness or paralysis. We have learned that the mechanical act of respiration or ventilation may be affected early and that mortality is often related primarily or secondarily to depressed ventilation and hypoxia more than it is to toxicity of the viral infection. It is felt that rest is the only cure for the disease and that nursing care for comfort and reassurance are of paramount importance.

Observation for signs of respiratory involvement and

difficulty in swallowing must be continuous, particularly during the early febrile stage. Sedation and repeated physical examinations are avoided and lumbar puncture is omitted if paralysis is evident. Tidal air determination is easily taken by simple apparatus and should be done on admission and as indicated if any respiratory dysfunction is suspected. If tidal air or vital capacity is decreasing progressively with each measurement, the use of a tank type respirator should be considered. If the patient is having any difficulty swallowing, oral fluids or food should be withheld. Intravenous fluids may be employed for several days. Gavage feeding during the febrile stage should be avoided due to the hazard of spill-over into the trachea and resultant pneumonia and atelectasis. In the presence of increasing difficulty in swallowing and decreasing respiratory ventilation we feel that tracheotomy is a necessity prior to being placed in the respirator. Humid atmospheres of conditioned air or oxygen have been proposed for patients with tracheotomy, and with the advent of the natural fog room early in 1955 some of the problems which arise from drying of secretions in the tracheobronchial tree have been eased. Several patients who were in respirators and who had a tracheotomy have been treated for periods of several weeks in the natural fog room. Temperature and humidity can both be controlled at predetermined levels and oxygen can be administered as needed either by a small plastic catheter into the tracheotomy tube or by the nasal route if tracheotomy has not been established. Other conditions which may benefit from the use of high humidity with controlled room temperature are: laryngotracheobronchitis, bronchiectasis, emphysema, atelectasis, bronchopneumonia, diaphragmatic paralysis due to central nervous system disease and finally the problems which may arise following aspiration of foreign bodies, gastric contents, and possibly amniotic fluid by the newborn. The end result of all the conditions listed above is hypoxia, thus any beneficial effect of therapy

should assist in the delivery of adequate amounts of oxygen to the circulating blood.

The natural fog apparatus is a direct result of successful experiences with the high humidity oxygen tent and has been developed by the Melchior, Armstrong, Dessau Company of Ridgefield, New Jersey. Two such units were installed at Hartford Hospital in 1955 and have been used extensively for both children and adults. Controlled clinical studies have not been completed thus it is not yet possible to state the place of controlled room temperature and high humidity in treatment of disease. However we do feel that hypoxia can often be prevented by exposing patients with respiratory tract infections and respiratory insufficiency to high humidity, comfortable temperature and oxygen when needed.

A few of the conditions where oxygen therapy is beneficial have been discussed and some of the newer apparatus described. It is our belief that in health and disease there will be further expansion of methods and apparatus to prevent hypoxia and to treat it more effectively when it occurs. There are many respiratory and circulatory cripples in our world today in need of assistance and it is our duty to bring to them as soon as possible methods which have been found by investigation and research to be clinically safe and therapeutically valuable.

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Symposium On Rehabilitation*

HOWARD A. RUSK, M.D.** — Moderator

EDWARD G. ASHERMAN, M.D., Chairman

MODERATOR RUSK: Dr. Asherman, Members of the Maine Medical Association, Ladies and Gentlemen. Once, right after the war, I followed Olsen and Johnson on a Luncheon Meeting of Veterans, and Johnson started his presentation by firing a 45-revolver under the table three or four times. The Veterans who were just back from combat jumped out of their seats. And, I was supposed to give a serious talk. Earlier, during the war at a USO meeting, I followed an Air Force Military Band and talked to a group of some 1200 young Air Force boys who were waiting to go to a jazz dance with an equal number of girls around the corner.

Those were the two most difficult experiences that I have had, except to follow Paul White at a medical meeting like this!

I want to outline to you the problem of rehabilitation and try to define what we mean by rehabilitation. Then our various Panel members will discuss specific phases of the program, and I will try to summarize briefly at the end of the presentation.

Rehabilitation is a necessary phase of medical responsibility today because of what we in medicine have created.

We are responsible for the need of this program, because since 1900, the life expectancy in the United States has increased from 46 to 70 years, as of last month. There are 14½ million in the United States today beyond the age of 65. One-third have no income at all; one-third have less than \$500.00 a year, and the remaining one-third are self-employed.

A man of 65 in the United States today has an expectancy of more than 16 years, and a woman just under 18 years.

We have created a group of old people, with all of the disabilities and chronic illnesses that come with an aging population.

More than that, we have saved the lives of countless children who, in the past, would have died and would not have been any great problem to us, medically.

As George Morris Piersol has put it, we have added years to life; therefore, it is also our responsibility to add life to the years.

If you want to know just what the problem is, let me give you figures on our Veterans which are perhaps, now, totally out-of-date, because they were devel-

oped in 1947, and predicated upon the fact that there would be no medical advance after that date.

At the end of World War II, we had 2,300,000 veterans from World War I still alive, with an average age of 53.

Provided there would be no medical advance after 1947, then in the year 2,000, we would have 2,700,000 veterans from World War II still alive and the average age would be 78. But, I am sure the figure will be much closer to 5 million today, and the age well over 80.

So the first problem that we have, medically, is this.

What are we all going to do to utilize our aging population in our economy?

Dr. White touched on it briefly in his remarks. Everybody in this audience knows perfectly well that age is a physiological thing and chronological. Some people are old at fifty, and others are young at eighty. I wonder how history would have read today, if Churchill had retired at sixty-five. It would have been a year before the Battle of Britain. I even wonder how President Eisenhower would have gotten along for a cardiac consultant, had Dr. White retired at sixty-five, because that, also would have been several years ago.

By the willy-nilly retirement policy that we have, I think we are wasting the most precious human resources that we have, and that includes wisdom. People are not born wise. They may be born brilliant, but experience only comes with time.

We have created this problem, medically, and I think that it is proper that the solution should come from us, or at least the leadership for such a solution, because it is not purely social, but it is also medical and economic.

This is not just an academic question, because if we don't do something about the utilization of our older people in our economy, by 1980, for every able-bodied worker, there will be one physically handicapped, one chronically ill, and one beyond sixty-five, on that person's back.

I am not an economist. But, I am told by the economists that such a situation is economically unfeasible.

Now, if I had gone to this meeting in 1945, and had asked the general question in the lobby: "What do you think about the problem of the disabled?" — the reflex answer would have been:

"Oh, yes, the poor war veterans; isn't it terrible?"

That is what all of us thought in those days, until we began to look into the situation.

Now, there are two or three figures that put this

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into prospective, quickly. The days of our highest casualties in the war were the first ten days after the Normandy landing, when we lost 11,000 men on the beach-head, killed and wounded. In those same days, with gas rationing, we had 26,000 killed and wounded on the highways and in industry.

Now, Maine is a rural State, and this figure might mean something to you. The three bloodiest days' fighting of World War II were the three bloody days of Iwo Jima. We had four times as many individuals in the United States killed and wounded in farm accidents alone than we lost on those three bloody days. Actually, the figures show somewhere between eight and ten times the number of disabled civilians as over disabled veterans.

If you took your own population in Maine as a flat million, and I know it is a little over that, you would find that if you were true to form, of all of the spot-check surveys made in other places in the United States, then you would have in Maine 120,000 individuals in your population who would have a disability that would require some type of prosthetic device, some type of special surgery or training or special vocational training and placement, if that individual were made to be self-sufficient.

The figure across the board in the United States is 12 per cent.

We are in a very — I don't know whether to say unique, or unusual decision in this particular field, in that every time a medical advance is made, as far as we are concerned, you compound the felony because you keep people older longer, to get all of the disabling conditions and the chronic illnesses that come in an aging population.

What is the answer?

The only answer that I know, in the light of our present knowledge, is,

First, a point of view. A head-on, dynamic approach to the utilization of the disabled in our economy, and that can only be done if you have a dynamic training program, that prepares them both physically and emotionally to meet these jobs. I think the reason we haven't done much in this field up until the last decade has been a relatively simple misconception that we have never thought about it. That misconception is this. If you are honest with yourself and have a mental picture in your subconscious mind about an able person, you will find that the body image is one of physical perfection, of athletic ability. You and I have forgotten that not for a good many hundred of years has society paid for strength. It only pays for two things, skill in your hands and what you have in your mind. You may be the best tennis player in town, and yet be too stupid to make a living. Also, you may not be able to run the 100-yard dash in twelve seconds, or throw a baseball in from right field but you can still be the best lawyer, doctor, teacher, elevator operator, librarian, potato peeler, or what-have you.

And there is a very, very simple reason why rehabilitation works. If you only remember one thing I say here today, I would hope you might remember this. The reason we can do a pretty good job in this program is because of the life we live. We use only 25 per cent of our physical capacity. You can do a pretty good job in the practice of medicine, and we can do a good job in the practice of medical rehabilitation because nature has given us such tremendous, untapped reservoirs of healing and over-compensation.

Take a blind man, who sees with his finger tips and ears. He hears and feels things that you can never feel. I have never known a person or heard of a person who learned to read Braille with real facility, until they had become blind. There is the fellow who taps his white cane. Why? Because his ears are so sensitive that he can tell from the echo coming back whether it is a wall, an area of trees or an open space.

You put a paraplegic at a bench job where he uses the upper arms and hands, and even with his hypertrophied muscles, he will kill the so-called normal worker, working at the same hours and the same bench, because he is working with hypertrophied muscles that the normal worker doesn't have. That is why every survey that has ever been made shows the same thing. Properly trained and properly placed, the disabled worker has a better production record, a lower absentee rate and nine times less labor turnover than the normal person working side-by-side with him.

Well, that is the problem, and that problem has a broad approach. Rehabilitation is not just splints and crutch walking and the like. You have to meet the total needs of the individual, and those needs are physical, emotional, social and vocational and at any time that you miss a cog in the link, then your morbidity goes up, and also your mortality; not the mortality of death, but the mortality of something that sometimes is worse than death, the mortality of living a life of indignity and dependency and depression.

I think it is fitting and proper and the dynamic approach to this problem to approach it from various angles, as we are going to this afternoon. That is why I am happy to participate here and to learn from the Panel Members who are going to present this program from different phases.

CHAIRMAN: EDWARD G. ASHERMAN, M.D., Portland — Our next speaker will be Dr. Lawrence Crane of Portland, an orthopedic surgeon, who will speak on the orthopedic side of this matter.

DR. LAWRENCE CRANE: Mr. Chairman, Dr. Rusk, Members of the Maine Medical Association and Guests. I believe there is rarely an illness, physical or mental, that doesn't need rehabilitation in one form or another. Some, of course, need much more than others, and orthopedic surgery falls into the category.

The four R's of the treatment of fractures as given to the medical student are,

1. Recognition

2. Reduction
3. Retention of fragments
4. Last, but not least, rehabilitation.

It is essential that we, as traumatic surgeons, realize the importance of this last R. The surgeon who treats a smashed finger by splinting or by amputation, and doesn't see the patient through until he is back to work, or at least back to some type of work, is remiss.

A difficult spastic hemiplegia or a polio with considerable residual paralysis can certainly tax the ingenuity of a team such as we have here. And there is one other individual who is not present, the social worker, who can be of tremendous help in the final steps of adjustment to the man's job, as well as to his home.

We, as surgeons, must correct the contractions with casts and surgery, and the paralyzed leg of the polio patient with fusions of joints and applications of braces. The physical therapists and the men who specialize in physical medicine can re-train and strengthen the muscles. However, it is the entire group that must sit down and plan the man's future.

I was able to have a gentleman come over from an adjoining town, who has been a real problem in rehabilitation, particularly orthopedically, but there are other angles, too, and I would like to show you this gentleman and tell you a little bit about what we have done for him. Come up to the platform, Harold.

This gentleman was in the Knox County Woolen Mill, in 1954, leading a very normal life, and doing a good job, when he caught his right arm in a rolling machine, which is used for making felt rolls. His arm went completely up into the roll and tore, or at least it severely stretched his brachial plexus and for the next few months, even though he had an aeroplane splint, to hold his arm in the abducted position, he had little or no motion in any muscles in his entire upper extremity.

Gradually, however, with physical therapy and training in the Liberty Mutual Insurance Company Rehabilitation Center in Boston, he began to improve and remained there for approximately eight months.

At that stage, he did begin to get some motion back in his shoulder, and some flexion in his fingers. There was no motion in his elbow, no extension of the wrist, and he had almost a worthless arm, except for this marked improvement in the musculature of his shoulder. We, therefore, started a series of surgical procedures, in an attempt to rehabilitate this man, to get him back somewhere where he was before. The first procedure was a wrist fusion, which would give him some stability. His wrist was like that (demonstrating); he was unable to hold any type of object, partly because of the wrist and partly because of the elbow. We fused the wrist first, and at the same time we put a bone-block between the first and second metacarpals, allowing his thumb to come out in the position of pinch, to allow him to pick up objects without too much difficulty.

After that procedure, which took a few months, we tackled the elbow. He had flexion of the fingers which allowed his fingers to come forward, but nothing to take them back. Those muscles originating at the elbow allowed us to do a procedure which consisted of transplanting these tendons back into the forearm, so that by tightening his fingers, he would bend his elbow. In addition, we had to do a bone block and put a bone in the back of the elbow, in order to prevent the elbow from dropping into complete extension.

He now has active flexion; it isn't strong, but he can pick things up in good shape, and with a bone-block, he can hook something and carry a good load.

The third procedure was not as successful as the previous ones. We attempted, having fused the wrist, to move his thumb backwards; that is the one thing he has not been able to do satisfactorily as yet. Perhaps sometime in the future, we will attempt to give him good thumb extension. He has a good, strong grip, and he has done very well.

A month ago this man returned to work. He is painting, doing odd jobs, and he is doing them very well, and I am sure he will do much more, as the years go on.

Thank you very much, and I just want to say that it has been a great pleasure to hear Dr. Rusk this afternoon.

CHAIRMAN ASHERMAN: Thank you Dr. Crane.

The next member of our team Panel is Dr. Ralf Martin of Portland, cardiologist, who will speak in this Symposium from that angle of the matter.

DR. MARTIN: Mr. Chairman, Dr. Rusk, Members and Guests. If Dr. Rusk thought he was on the spot, I don't know what he thinks I am on, as an ordinary physician and cardiologist, following Dr. White. I am really on the spot!

There are many different facets of this rehabilitation problem. There is the rehabilitation of the elderly individual who has not worked for a long time or has been retired from his job. And, there is the patient who was at work when he became ill or was injured, and the problem of getting that person back to his same job, or one similar to it.

Those of us here in Maine who do not practice in large centers and do not have the facilities and never will have the facilities of a large rehabilitation unit are left to our own devices. For the most part, this means that it is the job of the physician who has treated the patient to get the patient back to work.

This job is done very well, in most instances, because of the fact that physicians are willing to take time with these people. It takes a great deal of time, after a man has had, for instance, a coronary thrombosis, to explain his illness to him and get him back onto his job.

Many patients are fearful and ignorant of their situation. They often don't even know what is required of them in their own jobs. They have been working at

the job for many years, doing many things they don't need to do, involving stress and strain. They also are heavily involved, many times, in community activities, and in extra-curricular work.

You can put these men back at their same jobs, if they will give up many of these things which really don't amount to much. This means that you have to know that patient in his entirety, and you have to sit down, and not only question him as to what is required of him in his old job and what will be required of him when he returns, but you have to question the family, oftentimes, in order to learn more about the individual's emotional situation, and the situation between him and his fellow workers, as well as his boss.

This is a time-consuming affair, and often it is necessary to talk to the man's employer. In many disabling conditions like, for instance, the patient you have seen here today, he knows what his disability is; he can see and feel it and so can those about him.

However, most patients who have heart disease, have little conception of what their situation is; they don't know what is the matter with them, and you would be surprised or you wouldn't be surprised, perhaps, because you know all the weird ideas patients get about their hearts, and why they are sick. This is another time-consuming thing, but I think it is extremely important, and we should sit down and explain to the patient in words which he can understand just what is the cause of his difficulty; then it becomes easier to explain to that man what his limitations are, if any. They get confused about their medication — like the man who told us he was taking "female barbitol."

Rehabilitation centers are really physiotherapy departments; or that is what they turn out to be in the average community. Some of them are well-staffed, and some are not. From the standpoint of cardiovascular disease, they add little. If a worker has been trained in speech he is helpful to a few patients who have had a cerebral thrombosis. A center is also helpful in attempting to rehabilitate a hand, or an arm, or a leg; but these are very few in number, in comparison with the tremendous number of individuals who are ill and need rehabilitation from the standpoint which I have just talked about.

I certainly would like to see a rehabilitation center which would encompass all of the things that we have been talking about, with classification units, and work classification units, particularly, which would be helpful, I think, in the larger centers. It is still however, going to remain up to you as the family physician, in the larger percentage of cases, to rehabilitate your own patients, and you have to take the time to do it yourselves.

I think that more often than not, if you take the time to explain and instruct the patient in his own disease very carefully, most of those people who can be rehabilitated will be rehabilitated under you, and then the patients will go out and find their own jobs.

CHAIRMAN ASHERMAN: Our next speaker on the Panel is Dr. Nicholas Fish of Portland, a psychiatrist, who will speak on that angle of the matter.

DR. FISH: Mr. Chairman, Dr. Rusk, Members and Guests. Psychiatry is somewhat different than the other fields of medicine. In medicine, in general, specific lesions are present and the doctor treats people by correcting these or removing them. Then, hopefully, the patient feels better.

In psychiatry, the patient has all of his necessary parts and functions, but he is not able to use them. Either he is too afraid, or he doesn't know how. The methods of treatment in psychiatry are based on re-education of the patient. This aids him in learning how to use his abilities and to get rid of his fears.

One of the first things that is often wrong with a great many psychiatric patients is that they have a preconceived idea of what people are like. This is usually based on the way their parents behaved towards them. Perhaps their parents were inconsistent, demanding, and did not love them; or perhaps they may have been overprotective and they are fearful that other people will be like this. The psychiatrist has to change these thoughts and feelings through the example of his own relationship with the patient. He has to be interested in the patient; he has to be consistent and warm and reliable and understanding.

The patient's fears are best handled in another way. The patient may be permitted to talk through his guilt-laden material; he is often ashamed of various things that he has done and thinks he had committed some terrible sin. Just getting these things off his chest is a great help.

The doctor in general practice should be able help in this, at least, without needing to send anybody to see a psychiatrist.

In his discussions with the patient, the doctor may focus the patient's attention on his fears, and show how these are often related to real situations which bring on some of the patient's unpleasant symptoms, such a demonstration may often relieve the symptoms involved. For instance, if a man is afraid of people, he will often get a stomach-ache if he is in a crowd. The demonstration of this association will give the patient something he can use to overcome his stomach-ache the next time it bothers him in a similar situation.

A doctor may also encourage a person to act out fear-laden experiences. Such encouragement should not be given in the form of an order. If one orders a patient to do something, one often increases the fears of the patient, perhaps because the patient will be pushed into acting before he is ready to do so, or perhaps the patient will be able to act, but only because the doctor suggested it. This will increase his feelings of insecurity in that he will begin to feel that he is unable to make wise decisions and must wait for some wise person like a doctor or a father to tell him what to do. This will result in his being unable to do any-

thing. In order to help a patient overcome his fears and enable him to do what he wants to do, one has to listen, understand, agree and try to encourage him to do what he is able to do, but not force him. Each time a patient is able to accomplish something he has been afraid to do before, he will lose some of his emotional insecurity and feel a bit stronger.

Psychiatrists may also try to help a person learn new skills. The patients have to do this through their own efforts and not through spoon-feeding. You cannot tell a patient to go out and get married, or have a baby, or what-have-you. Incidentally, this is a mistake made by many doctors. It is also very injurious to a patient. You have to wait until the patient is ready to make the decision themselves to have the baby or get married, or whatever it happens to be, even though you know that is what would help long before the patient can bring himself to do it. It is very hard for a doctor to sit by and do nothing; but it is essential.

Other methods of psychotherapy are helpful. Reassurance is one of these. But it has several pitfalls. I had one experience recently in my office, in which a man was afraid that his throat was going to constrict to a point where his airway would be cut off. At one point, I suggested, laughingly, that this wouldn't happen anymore than the front porch of my office would fall down. Unfortunately, two or three weeks ago, the owner of my office building decided to remove the front porch. That was upsetting to the patient even though he knew there was no real danger. If one plans to use reassurance as the main type of treatment, one must be ready to see the patient indefinitely. Reassurance never "cures" anything.

Still another form of therapy which is more or less frowned upon by psychiatrists, at least at the present moment, is suppressive treatment. In this form of therapy, the patient is told that there is nothing wrong with him. Sometimes, this will make a patient feel a bit better temporarily, but in the long run, if he is really emotionally sick, he still knows darned well there is something wrong, and he is not going to believe you. This usually means you will lose your patient to another doctor.

There are many types of mental illness, of course, which we don't see in private practice. Among these are the patients who try to run away from reality. These patients are usually seen in the State Hospitals. A total push type of treatment, where they try to keep the patients busy all the time, in order to keep them in contact with reality, is often found to be very helpful with these patients in the State Hospital.

The main thing that I would like to stress here in the time I have available is that psychotherapy itself is merely another form of rehabilitation.

CHAIRMAN ASHERMAN: Dr. Rusk will now present a brief summary and correlation of some of these aspects of rehabilitation.

DR. RUSK: This has been very interesting to me,

and again, my gratitude for the privilege of participating.

I don't think that I have too much to quarrel with, about the various facets of this program as they have been reported. I should like to take these last few minutes to try to give you our perspective of rehabilitation, what it is, and how it works, and then I should like to take five minutes to demonstrate to you the management of a simple hemiplegia.

In the first place, I think that 80 per cent of all rehabilitations should be done by the practitioner in charge of the patient, whether he be an orthopedist, a surgeon, a cardiologist, an internist, a neurologist or what-not. I think if he will take the time and follow the ground rules that are well-established in the literature, that he can do a good job.

I think we are in the same situation in rehabilitation as we are in psychiatry. The psychiatrists are so few that they must be saved for the difficult problems, both diagnostic and therapeutic. Every man in this room practices psychiatry every day of your lives, with a variance of degrees and skills, depending upon your interests, and your natural abilities. But, you have to know when to pick up the problems that are serious and to get them into hands where they can get definitive treatment, just as you have to be able to pick the brain tumor and get it into the hands of the brain surgeon before the optic discs have been swollen long enough to get permanent blindness or any other complication.

So I say that this should be done by the practitioner, in the office, home or the general hospital, and I feel just as strongly that 20 per cent have to go to comprehensive centers; otherwise, you cannot do a good job.

Take, for example, the paraplegic. It might interest you to know that we see, on our service 250 paraplegics a year, and somewhere between 75 and 100 quadriplegics. It takes us twice as long to clear up the complications due to faulty early management, bed sores, kidney complications, contractures and emotional trauma than it does to train the patients.

With adequate training, I can tell you that 80 per cent of all paraplegics can go back to some type of gainful work in the community and not be at home. The figures on that are interesting. We had 400 in World War I; the mortality was 90 per cent the first year. One-third never got back from France to the United States, but died on foreign soil. Only two are living there, and they are partial.

In this last war, we have 2500 and they didn't die. We had antibiotics and new surgical techniques and new understanding of nutrition. We set up a new dynamic program in our Veterans Administration, long before it was available to civilians. You might be interested to know that of the original 2500 paraplegics in World War II, 1,763 today are living in their own homes and driving their own cars, and more than 1,200 are back at some kind of gainful work.

It might interest you to know, also, that while we got 2500 as a result of the war, we got 12,000 as a result of accidents in civilian life, and that the case load in the VA has not gone down a single case; for every patient who has gone out, one or more patients who have had paraplegia due to peace-time trauma come in.

Now, what is this rehabilitation business, anyway? It's a fancy word that we don't use much, anymore, because it has become hackneyed. We talk about the third phase of medical care:

1. Prevention.
2. Definitive Care.
3. What happens between the bed and the job, or what happens between when the fever is down and the stitches are out.

Now, we feel that we are a service department to serve the doctor, to give this care to his patients. We are called in consultation at Bellevue, and have been for years, now. We see all definitive amputees before they are amputated. We tell the individual why he can't keep his stump on a pillow; he will get contractions that will take six weeks to get out. We tell him why he takes exercises. We tell him about the prosthesis, and how much the cost will be. And in the older age group, with heart and circulation troubles, we begin to talk about what they can learn to do in a wheelchair, and we talk down prosthesis. We know that such individuals would never wear an artificial limb. You had to fit it, because without trying you never would be satisfied. We start there, and the medical and surgical care become secondary.

We like to accept the primary responsibility for the patient and work out a program.

We check the patient. Can you put on your own cleets and braces? Can you go from bed to wheelchair, to toilet, and back to wheelchair, bathtub to wheelchair? If you walk, can you get up and down a curb?

After we get the preliminaries and do a psychological and social screening, then the patient comes before our group for evaluation, and in the clinic sit all the members of the team, the physician, the physical therapist, the social worker, the clinical psychologist, the vocational counselor, the nurse, the speech therapist, the person trained in recreation.

The case is then presented, and a medical, social, vocational, psychological program is planned for that individual. Based on five hours a day of training, he changes classes every hour, on the hour, like you do in school, and the program is designed to meet his deficiencies.

How long do we keep them?

How high is "up?"

Until they have reached their maximum improvement. A clean paraplegic of fifty or under, a T-10, I believe, with abdominals preserved, will average 100 days. A quadriplegic will average 150 days. Eighty per cent of them are between the 5th and 6th and 7th cervical. We don't pretend to teach them to crutch-

walk. We teach standing to them, several hours a day, because we found out in the last three years if they do nothing but stand, then the bones don't decalcify and you don't get the circulatory problems, and that alone is a preventive for their entire future lives.

The hemiplegias stay an average of seven weeks, and I will talk about that in a minute.

When a patient reaches a plateau, you have to be ruthless. If you don't turn them out of your training program, you will find that you are operating a sheltered workshop and not a dynamic training program. Then it is your responsibility as a physician heading such a program, and I don't care whether it is a general practitioner, an orthopedist, a neurologist or a surgeon who heads the program in the community or in the hospital, provided he takes the time to train himself and has an interest in the program.

We started some years ago with one young doctor in training, and as of the first of July, we have twenty-five jobs for every boy we turn out. He can go any place in the country he wants to go because the demand is so great.

We have one unbreakable rule in the program. No one is allowed to tell a patient what they can't do until they have given them an opportunity to try.

A neighbor boy of yours, in New Hampshire, came to us five years ago; he was seventeen years old. When he was 15½, he dove into a pool and broke his neck. He had the highest trans-section I have ever seen survive. He got terrific spasm in the lower extremities. He learned, by biting the end of the finger, that he could break the spasm; therefore, he got gangrene, and lost the ends of them. He was completely paralyzed, without sensation from this level down (indicating). He wanted to paint. He had never painted before. Following the rule, our occupational therapist and the mother, the nurse, the doctor and the boy devised the double strap that went around his elbow, with a holder in here (indicating) and the paint brush. We propped him up on the tilt board, and said to him: "Paint."

While he was training at the institute, he painted six oils, and they were good; yes, they were remarkably good. And, mind you, he had never had a brush in his hand before.

We had an art critic see some of his paintings, and he said:

"This boy has some of the qualities of old Grandma Moses."

They were poor people; so I got a friend to give him some lessons in art by correspondence. We had a little art show, and got some friends in and sold the six pictures for \$600.00. With that, they bought a trailer, and with his sister and her three children, and the mother and father, they went to Florida. It has now been five years, and this boy is now more than three-quarters of the support of his whole family, painting oils in a little studio outside of Miami.

I could stand here and cite you fifty such cases this afternoon who are doing the same sort of thing.

I am often asked: How much of this program is psychological and psychiatric, and how much is physical?

I always answer it in the same way. If you do a day's work, how much do you do with your right hand and how much do you do with your left hand?

In the first place, it depends on the job, and whether you are right or left-handed. Both of those factors, at the end of the day, you could not tell with any degree of certainty. It is a total job.

I can tell you that 55 per cent of our patients have emotional problems, and if you don't meet them, you miss the boat.

Now, we do not have any tests that let you know what an individual can or cannot do. We have only work experience. Why, in some classifications, they have a minimum of anxiety and in others a maximum, we do not know.

What is this relation with your patient that gives them confidence? Maybe he has this to a greater degree than you do. Can you measure it, define it or teach it?

Those are the things that we are trying to find out.

I do know this: In physical rehabilitation, patients do better if they are all together, hemiplegics, paraplegics, multiple sclerosis, polio, amputees, arthritics.

Would a cardiac do well in that setting, or is he better isolated?

We get inner strength by seeing what these people have done without anxiety.

With the emotional cripple, would he do as well in such a center? I am inclined to think that he would, if he came in and worked under sheltered environment, with group therapy and fortification during this period of time and worked with people with a different kind of disability.

Some day, we have many things to find out, and we should do this before too long. Otherwise, we are not going to have dynamic improvement.

Let me outline in five minutes the approach to one of the real problems. There isn't a man in this room who cannot think of many hemiplegics, for there are a million and a half in the country. We just finished an analysis in this matter, and we find the average age is 63, and most of them are typical Bellevue patients. The time in training, after a stroke runs from nine months to three years; 40 per cent were aphasic. The average training time was seven weeks. With 900, we were able to teach them to walk, to meet the needs of daily living, to be dry, and lead non-institutional lives; 400 went back to gainful work, including a group of rugged individualists, men in the mid-sixties, who could not go back to their own jobs. The thing that hurt them was to think that they couldn't continue to support their families and would have to go on relief. With great fear and trembling I recom-

mended that maybe they would like to learn to cook and run the house, not knowing whether they would be resentful or delighted. But, I have never seen a happier group. We have trained fifty men, who have gone back to take care of the houses while the wives have a job outside. They have not gone on relief, and with their efforts, they have retained their dignity.

Anybody in this room can take care of the garden variety of hemiplegics, if you read the rule book and take the time.

What do you do when the patient comes to you? With pain and contractures, a physiotherapist is wonderful, or a nurse, but if you haven't those services, and if you have an intelligent family to deal with, you teach them how to put the affected part through the motions twenty times, three times a day. You don't get painful shoulders and contractions. When the patient becomes conscious, if he is aphasic, this sounds so simple that I hate to say it, and I wouldn't if I hadn't seen it otherwise. You sit down by the bed and take his hand in yours, and you say to the patient:

"You have aphasia. You know this is a light, and you can't say 'light.' I know how I feel if I can't remember a friend's name: I know you are multiplying by infinity what this means to you. But, there is a way to help you. We know that you haven't lost your mind and you aren't crazy. I can help you."

Now, if you haven't got a speech therapist, we have a manual that has the words and the objects that you can take, and it gives directions, too, so that any intelligent family can take and run a pretty good garden variety program for the average, simple aphasic patient.

Then, as soon as possible, you have the patient stand at the side of the bed; then, you don't have to go through the long period of readjustment of the homodynamics. You teach him balance. Walkers are an abomination. You cannot teach a patient with them. Try to walk 100 yards yourself. You have to get the reciprocal pattern and the motion. You can get a simple pair of parallel bars that a plumber can build, five or six feet long, in your kitchen or in the kitchen of the patient. If not, then you can take two straight chairs and then let them slide along the linoleum floor.

If the patient has a foot drop, you get his toe off the floor. If he has a clonus, put 14-inch plywood under the ball of the foot, because 90 per cent of the clonus impulse comes from the toe, and you will stop it usually in a few days, and it certainly will be greatly helped. That is a simple pattern.

The hand comes back last. There are a lot of new, coordinated exercises that we are extremely enthusiastic about, but they are more complicated.

However, if you do that, you can take care of three-quarters of all the hemiplegias you have and do it well. If anybody wants the ground rules and the manual, just send me a two-cent stamp and I will send a monograph that outlines it from beginning to end.

Now, as to the complicated problems, if you don't

get those individuals into a center where all of the various disciplines can converge on them, your results will not be good.

Rehabilitation is the third phase of medical care. It is a service to physicians and to the patients. It is a salvage program to utilize the people whose lives we have saved, but whose lives are rather useless unless something is done about a dynamic approach.

One more word, and I shall be finished. You don't get fine china by putting clay in the sun. You only get it if it goes through the heat of the kiln. Life breaks some pieces. Disability breaks some pieces. People with disabilities are normal people, with packs on their physical and emotional backs. If, by courage and opportunity, they learn to carry this added load, they not only get muscular hypertrophy, but spiritual hypertrophy. That is why it is a wonderful privilege to work with this group, because of the depth of spirit.

I shall close by reading eight lines from the new Creed we have at the Institute, and the father of one of our patients had it put on a bronze plaque, and it now stands in our Lobby.

It is the "Creed for Those Who Have Suffered" and it was written by a Confederate soldier, and the author has always been anonymous.

With my gratitude to you for coming, I close with these lines:

CREED FOR THOSE WHO HAVE SUFFERED

I asked God for strength, that I might achieve.

I was made weak, that I might learn humbly to obey.

I asked for health, that I might do greater things.

I was given infirmity, that I might do better things.

I asked for riches, that I might be happy.

I was given poverty that I might be wise.

I asked for power, that I might have the praise of men.

I was given weakness, that I might feel the need of God.

I asked for all things, that I might enjoy life.

I was given life, that I might enjoy all things.

I got nothing that I asked for,

But everything I had hoped for.

Almost despite myself, my unspoken prayers were answered.

I among all men, most richly blessed!

This is the Credo of the disabled that I have had the privilege of working with; they have fought and they have won!

CHAIRMAN ASHERMAN: Thank you very much, Dr. Rusk. If there are any questions that any one would like to ask, we do have a couple of minutes and I am sure Dr. Rusk would be glad to answer your questions.

DR. GIESEN: How do you go about getting patients in your clinic?

DR. RUSK: We have a waiting list, and 80 per cent of our patients come from third parties, insurance companies, labor unions, state rehabilitation programs, voluntary organizations like the polio group, and 20 per cent come from our private patients.

It might interest you to know that one-third of all the private patients are physicians or physicians' families, which pleased us greatly. We have a number of patients at the present time from Maine. You send us no easy problems. We don't expect easy ones, to be sure, because we think that an institute like ours should be for complicated problems.

We have a magnificent human being from up in Maine, a paraplegic, with strange complications. Before we could start with this man, he had to have a surgeon tack the rectum up tight enough so that straining wouldn't mean a prolapse. We had to do a bladder neck resection, and then we had to train him to walk. He is ready to go back to work, now. I will say that the people from here are tough; they have a wonderful spirit and we like to have them.

I would like to say that any time you come to New York, you are most cordially invited to come to our institute, which is at the corner of 34th Street and First Avenue, at 400 East 34th Street. We have our evaluations from four to five o'clock on Thursdays. If you cannot come then, the doors are always open, and if not, the red carpet may not be out, but a warm welcome will be inside.

CHAIRMAN ASHERMAN: Again, thank you very much, Dr. Rusk, and I also want to thank the participants in this Panel Discussion.





ACHROMYCIN*

Tetracycline Lederle

for prophylaxis and treatment of

obstetric infections

Posner and his colleagues¹ have reported on the use of tetracycline (ACHROMYCIN) in 96 cases of obstetric complications, including unsterile delivery, premature rupture of the membranes, endometritis, parametritis, and other conditions. They conclude that this antibiotic is ideally suited for these uses.

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SF Oral Suspension, 125 mg. per teaspoonful (5 cc.)

 For more rapid and complete absorption. Offered only by Lederle!

¹Posner, A. C., *et al.*; Further Observations on the Use of Tetracycline Hydrochloride in Prophylaxis and Treatment of Obstetric Infections, *Antibiotics Annual* 1954-55, pp. 594-598.



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PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.

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The Journal of the Maine Medical Association

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Across The Desk

AMA Explains Lobbying Duties to Senate Group

Ranking among the leading lobbying organizations — in terms of expenditures — registered with Congress, AMA went before a Senate investigating group last week to tell how and why it tries to influence national legislation. The hearing was one of a series being conducted by a special committee looking into political activities, lobbying and campaign contributions. Chairman is Senator John L. McClellan (D, Ark.). Witnesses for AMA were President-elect David Allman, Atlantic City; C. Joseph Stetler, law department head; and, from Washington office, Dr. Cyrus Maxwell and James W. Foristel, counsel.

FROM BAXTER TO BRICKER

The interrogation ranged in subject from Whitaker & Baxter "public education" campaign of six years ago to AMA's current espousal of Bricker resolution circumscribing President's treaty-making power. But at no time did questioning by Chairman McClellan or committee counsel get rough. Witnesses deal forthrightly with AMA's drive earlier this year against social security amendments (HR 7225) and its interest in military dependents' medical care and drafting of doctors, among other Congressional matters. Following are some of the facts and opinions which were brought out in response to questions:

Aggressive support of Bricker resolution was

justified by AMA spokesmen as a step to forestall incursion of socialized medicine via international agreement.

AMA's annual income is slightly more than \$9 million, derived in the main from dues (nearly \$4 million) and Journal advertising, which exceeds \$3.7 million. About 21½ per cent of the budget goes into lobbying expenses.

Association's Washington office has 20 employees, six of whom devote part of their time to lobbying activities.

Letter-writing campaign promoted by AMA in its futile effort to defeat HR 7225 was described by Stetler as only such instance of a direct appeal to the membership. "Have you been," asked Senator McClellan of Dr. Allman, "a bit disappointed in the effectiveness of lobbying?" Replied Dr. Allman: "I have been, yes, sir."

When the chairman questioned whether Dr. Allman felt that a lobbying office is justified, the president-elect said he does not consider the Capital bureau a lobbying center. On this point, Stetler remarked that since lobbying constitutes such a small part of AMA's activity it is doubtful whether registration under the Federal law is really necessary, but it is done to be on the safe side.

State, Local Governments Spending High in Health Services

Next to education and the building and maintenance of highways, health services are the largest single ex-

pense item in spending of state and local governments. U. S. Census Bureau figures disclose health spending in

1955 was \$3.6 billion. Public welfare spending which also includes an undetermined amount of health expenses totalled \$3.1 billion. The health expenses were twice as much as government administration and seven times the money spent on recreation. The Census totals include: education, \$11.9 billion; highways, \$6.4 billion; police and fire, \$1.9 billion; government administra-

tion, \$1.4 billion; interest, \$838 million; natural resources, \$793 million; parks and recreation, \$509 million; housing and re-development, \$499 million; air and water transportation, \$310 million. The health services are divided into \$2 billion for hospitals, \$1.1 billion for sanitation and \$470 million for other health items.

Selective Callup Plan to Replace Dr.-Draft

Doctor-draft act, on U. S. statute books since September, 1950, will be permitted to die next June — provided Defense Dept. succeeds in having Congress amend regular draft law authorizing President to make special calls on Selective Service for persons with vocational skills needed by armed forces. These would include, but not be limited to, physicians and dentists. Defense Dept. officials acknowledged last week that an amendment of this kind is now being drafted for approval of White House, preliminary to transmittal to Congress in January.

Army, Navy and Air Force believe they can fill future medical-dental requirements from ranks of graduates who are subject to military service under

regular draft law. Navy has a call on Selective Service for 300 physicians for induction this month. This winter Army may ask for 250 and Air Force for 200. That will be all. No more dentists are to be requisitioned.

Two-fold purpose of prospective "selective call-up" substitute is to give Pentagon a procurement mechanism for immediate use in event of an emergency and to preserve interest of hospital interns in residency deferment program. Latter might want for applicants, it is felt, if young physicians had nothing but the regular draft law's obligations to reckon with.

Medical Journal Profits Undergoing Tax Scrutiny

Internal Revenue Service is making no public acknowledgment of this, but its tax ruling division is looking into profits of a number of medical journals

and income taxes paid thereon. Although all of the journals involved are official organs of professional societies, some are handled by book publishing firms.

Medical Cases Numerous on Supreme Court Slate

U. S. Supreme Court opened its 1956-57 session last week with a number of medical cases among the hundreds it is being asked to review. To mention some of the more interesting ones:

Does the taking of a blood specimen, for purpose of a sobriety test, from an unconscious person constitute denial of due process of law? Yes, if result of test is placed in evidence at a trial, according to counsel appealing a manslaughter conviction returned in a New Mexico court (*Breithaupt v. Abram*).

Alleged denial of due process also is basis of *Taylor v. Oklahoma*, in which the highest tribunal is asked to review Oklahoma Supreme Court decision upholding state's right to exclude naturopathy from licensure as a healing art.

In *Carlisle v. U. S.*, involving a Florida druggist convicted of selling habit-forming drugs without a prescription, counsel for petitioner contends that Federal Food and Drug Act is "too vague and indefinite."

Fraud, deceit and misrepresentation were employed by a government agent who obtained evidence leading to his conviction of prescribing narcotics to a person not under his medical care, according to an osteopathic physician who is petitioning for review (*Nunn v. California*).

In *Dorner v. Chicago Dental Society*, the appeal is from an Illinois Supreme Court decision upholding constitutionality of a state law which forbids commercial manufacture and sale of artificial dentures except by prescription of a licensed dentist.

U. S. Aid Asked by Makers of Surgical Instruments

American manufacturers of surgical instruments are in trouble. Logistics experts of Defense Dept. and

Army, Navy and Air Force met with some of them at Pentagon Thursday at a special conference to discuss

their difficulties, as outlined by their industry group, Manufacturers Surgical Trade Association. Main problem: Meeting competition of foreign manufacturers,

notably the Germans, whose advantage of much lower labor costs enables them to market quality instruments at prices considerably below the American tags.

Travel Per Prescription Spiked as Tax Exemption

Internal Revenue Service is not softening its stand against deductibility of medical travel expenses. Its latest ruling involves a person suffering from a serious illness whose condition was worsened by worry over a family member injured in an accident. On medical advice, the former made trips to Florida and California "for a complete change of environment and living conditions." Subsequently a ruling was requested as to whether travel costs came under heading of medical care.

"Expenses . . . which were merely for a change

in the patient's environment, or the improvement of his morale, and the general mitigation of his condition, which might result from a general improvement in his health, are not amounts paid for 'medical care' under Section 213 of the Internal Revenue Code of 1954," says Revenue Ruling 56-474, published in Internal Revenue Bulletin for Sept. 24. "Accordingly, such expenses may not be taken into consideration in determining the amount of a deduction from expenses paid for 'medical care.'"

U. S. Rules Refresher Courses Are: "Deductible, If . . ."

U. S. Internal Revenue Service now states that your expenditures for education are deductible if they are for a "refresher" or similar type course taken to maintain the skills directly and immediately required by you in your employment or business. To be covered, an educational course should: be designated for established physicians to help them keep abreast of current developments in the profession; be of short duration; but should not be taken on a continuing basis nor carry academic

credit. Not acceptable: education designed to prepare the doctor to enter a specialty.

If you travel away from home primarily to obtain "refresher" education, your expenditures for travel, meals and lodging while away from home are deductible. Not allowable: expenses for personal activities such as sight-seeing, social visiting, entertaining or other recreation.

Refreshing ruling is result of long-time efforts of AMA's Law Dept. For detailed information, see JAMA, July 28, 1956, page 1260.

Five Medical Schools Have Enrollment Exceeding 600

The University of Tennessee at Memphis is the largest of the 76 approved four-year medical schools in the country on the basis of total enrollment. A recent report by the American Medical Association shows that, during the 1955-56 academic year, five medical schools had a total enrollment of more than 600 each.

The largest was the University of Tennessee with 781 students. The University of Michigan followed with 762; Jefferson at Philadelphia with 677; University of Illinois with 636, and the University of Texas at Galveston with 614.

Americans Spending More for Hospital Care

For the first time, Americans are spending more for hospital care than they are for physician services, according to an editorial in the current Journal of the American Medical Association.

Personal expenditures for hospital services during 1955 were 3.13 billion dollars as compared with 3.07 billion dollars for physician services. These figures, which appeared originally in the July, 1956, issue of Survey of Current Business, published by the U. S. De-

partment of Commerce, "mark 1955 as a turning point in the history of medical economics," the editorial said.

In 1929 it was estimated that 959 million dollars was spent for physician services, while only 403 million was spent for hospital care. By 1950, expenditures totaled 2.435 billion for doctor services and 1.975 billion for hospital services.

In other words, the physician's share of the "medical care dollar" declined from 33 cents in 1929 to 27.2

Continued on page 366

A Council Brief

The October meeting of the Council was held at the Maine Medical Center in Portland, Maine on Wednesday, October 17, 1956. The meeting was called to order at 3:45 p.m., and the following were present: Eugene E. O'Donnell, M.D., Chairman; Armand Albert, M.D.,

Francis A. Winchenbach, M.D., Alcid F. DuMais, M.D., Allan Woodcock, M.D., Wilson H. McWethy, M.D., Robert L. Allen, M.D., Raymond E. Weymouth, M.D., Daniel F. Hanley, M.D., and Esther M. Kennard. Absent: Martyn A. Vickers, M.D.

Medicare

First on the Order of Business was a report concerning the Medicare plan for dependents of personnel in the Uniformed Federal Services as provided for in PL 569 of the 84th Congress. (See page 315 of the October issue of the Journal.) The members of the Council were advised that the special committee, which was appointed at the August meeting of the Council, with the assistance of other members throughout the State, have prepared a fee schedule based on a nomenclature from the Department of Defense and that it has been forwarded to Washington. The membership of the committee is as follows: Dr. O'Donnell, Council Chairman; Dr. Winchenbach from the Health Insurance Committee; Dr. William C. Burrage from the Veterans Affairs

Committee; Dr. H. Draper Warren of Caribou, Chairman of the Medicare Committee appointed by Dr. Vickers a year ago; and Dr. Hanley. Also, at the August meeting of the Council, it was proposed that the Maine Medical Association request that the Department of Defense name the Associated Hospital Service of Maine as our contracting agent. The Department of Defense has requested that the Maine Medical Association have representatives in Washington on November 16 at 8:30 a.m. to meet with representatives of the Defense Department to discuss contract and fee schedule negotiations. The Council voted that Dr. Hanley and Dr. Warren represent the Association at the meeting in Washington.

Fall Clinical Session

The program for the Fall Clinical Session of the Maine Medical Association, to be held at the Hotel DeWitt in Lewiston, Maine, November 18, 19 and 20, was presented and approved. The scientific portion of this program, which is published elsewhere in this issue of

the Journal, is sponsored by the Maine Cancer Society.

Arrangements for the program and meeting have been made by a committee consisting of members of the Androscoggin Medical Society.

1957 Annual Session

This meeting is scheduled for June 23, 24 and 25, 1957 at The Samoset, Rockland, Maine. Lloyd Brown, M.D., of Bangor, is Chairman of the Scientific Committee, in charge of the program for this session. Dr. Brown and members of his committee, Edward G.

Asherman, M.D. of Portland, and Richard H. Dennis, M.D., of Waterville, have had several meetings and will have the program ready for release by the first of the year.

Committee Reports

The Council voted that all committee reports be published in the Journal prior to the annual session in June. This will give all members of the Association an opportunity to study these reports before the meetings of the House of Delegates. Reprints of reports will be included in the brochure presented to each county delegate.

A suggestion that we have a "committee to study committee reports" received favorable comment. This committee would review all committee reports before the annual session and be present at the House of Delegates to make recommendations and suggestions.

Future Council Meetings

It was voted that the next three meetings of the Council be held on the following dates:

December 9, 1956 in Bangor — February 10, 1957 in Brunswick — April 7, 1957 in Brunswick.

ESTHER M. KENNARD, *Secretary*



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Poliomyelitis Vaccine In Maine

There are in the State of Maine an estimated 322,000 children and young persons under the age of twenty. Up to September 1st of this year, the innoculations given under the programs of the National Foundation for Infantile Paralysis; those given under the Federally-financed program; and the estimated number administered by physicians in private practice totalled approximately 164,500 first and 150,800 second innoculations. This means that 51% of the total of 322,000 had received one innoculation and 47% had been given two innoculations. The figures below show the breakdown by age groups and programs.

The Department's participation in the immunization program represented a tremendous concentration of time and energy which, to some extent, was diverted from other activities. The distribution of vaccine (the cost of which was \$213,000.00 largely Federal Funds)

entailed greatly increased workloads for the Bureau of Health staff involved.

In addition, the Department expended approximately \$40,000.00 for the payment of the services of private physicians at immunization clinics and for medical supplies and other necessities required for the mass immunization program.

Although Maine has been one of the many states to have a low polio incidence this year it is, of course, impossible to ascribe this entirely to the use of the vaccine. However, there is every reason to believe that the material has proven itself effective.

Public health authorities advise physicians in private practice to continue immunizations throughout the winter months in order that the largest number of persons possible may have the protection by the start of the 1957 polio season.

	NFIP		Federal		Est. Private		Est. Total	
	1	2	1	2	1	2	1	2
0-4	0	0	8,953	5,580	18,200	16,850	27,153	22,430
5-14	21,987	18,601	93,209	89,320	15,900	14,750	131,096	122,671
15-19	0	0	2,480	2,201	2,200	2,050	4,680	4,251
2 age	0	0	12	6	1,550	1,450	1,562	1,456
Total	21,987	18,601	104,654	97,107	37,850	35,100	164,491	150,808

Summary of Tuberculosis Study Committee Report

The recommendations of a special citizens committee which, with the aid of professional consultants, has studied the tuberculosis control problem in Maine will be published in pamphlet form and made available to members of the Maine Medical Association and other interested persons, according to Dr. Brinton T. Darlington, of Augusta, Chairman.

The report which was made public on October 11 emphasized that despite modern advances in treatment, tuberculosis continues to be a health problem of great importance to the people of Maine and to their state government. Basic needs are summarized as: case

finding, proper isolation, adequate treatment, rehabilitation and adequate follow-up after discharge. The goal is to render cases non-infectious and inactive and to enable the patient to return to the community useful, self-supporting and respected.

One of the major recommendations of the committee, which was appointed in December of 1954, was the transfer of three tuberculosis sanatoria from the Department of Institutional Service to the Department of Health and Welfare and this change was made by the 97th Legislature. The law became effective on August 20, 1955.

Recommendations regarding the three sanatoria, were that all three be continued, but with the qualification that the Western Maine Sanatorium at Hebron might eventually be closed. The committee recommended that the Northern Maine Sanatorium at Presque Isle be continued with possibly a dual use of its facilities, because of the long distances involved between Aroostook County communities and the Central Maine Sanatorium at Fairfield.

The present regional X-ray clinics should be replaced by regional chest clinics directed by physicians trained in chest diseases, in the opinion of the committee. These clinics could best be established by using such existing facilities as general hospitals.

Among other recommendations was that the present charges for sanatorium care be abolished. The committee pointed out that tuberculosis most frequently strikes those with low incomes. The necessity for paying for any part of hospital or clinic care could prevent treatment and isolation of an infectious person. The system of billing towns for individuals unable to pay while not legally pauperizing the individual may do so in the eyes of his neighbors and prevent or delay his

accepting hospitalization. The number of patients refusing treatment because of cost can never be determined, but if only one case is prevented, the community will profit by the underwriting of the cost of sanatorium treatment, according to the committee.

The Committee secured the services of two out-of-state specialists in the field of tuberculosis to aid in the professional aspects of the study. These were: Dr. William G. Childress of Grasslands Hospital, Valhalla, New York who is secretary of the American Trudeau Society and Dr. Leon D. Hetherington, chief of the Tuberculosis Bureau of the Maryland Health Department. The two consultants visited Maine a number of times and worked co-operatively with the Study Committee and the Department of Health and Welfare.

Other members of the committee of which Dr. Darlington is chairman, are: Frederick T. Hill, M.D., Waterville; Edward A. Greco, M.D., Portland; Edward W. Colby, M.D., Portland; Mr. Frank Curran, Administrator of the Eastern Maine General Hospital in Bangor; Mr. Howard L. Cousins, Bangor; and Mayor Brooks Brown of Augusta.

Physicians Invited To Offer Suggestions Regarding Public Health Programs and Needs

The views and opinions of practicing physicians regarding major health needs of the State and particularly their recommendations for the development of programs for the improvement of health services and practices within the Department will be welcomed in connection with a departmental study now underway.

With the objective of strengthening the Department's health programs, an informal committee from the staff of the several divisions in the Bureau of Health was named by the Commissioner in April of this year to study health needs within the state. The group was assigned the following specific objectives:

To assist and identify major health needs of the state;

To suggest fields of emphasis based on current trends;

To make general recommendations, with the aid of advice and suggestions from the profession, for the development of programs looking toward the improvement of health services and practices within the Department;

To facilitate the exchange of information regarding programs and policies between each of the various divisions of the Department, in both the Bureau of Health and the Bureau of Social Welfare;

To foster co-operative relationships toward the improvement of health services and practices within the state.

In its organizational stage, the committee set up several sub-committees for the specific study of chronic disease; mental health; environmental health; hospital and medical care; accident prevention; maternal and child health; and dental health. An additional sub-committee on organization and administration will shortly be appointed to study the recommendations made by each of the sub-committees and draw up a blueprint of potential action in accordance with availability of personnel, facilities and funds.

The committee meets as a whole every two weeks; listens to reports and recommendations of sub-committees and makes suggestions for further study and exploration. A final report from each of the sub-committees to the committee as a whole is scheduled for December 1, 1956.

Any suggestions, ideas and opinions from practicing physicians will be both helpful and welcome and may be sent to the Office of the Commissioner.

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County Society Notes

HANCOCK

September 12, 1956

The Hancock County Medical Society met at the Hancock House, Ellsworth, on September 12, 1956.

There were twelve members and two guests present. The meeting was opened by the President, John T. Connell, M.D. Dr. Connell informed the Society that it is to have a representative on the Health Insurance Committee of the Maine Medical Association and tentatively appointed Dwight Cameron, M.D., pending his definite acceptance.

The speaker of the evening was Thomas H. Palmer, M.D., of Bangor who gave a very interesting and instructive talk on "Reconstructive Arterial Surgery."

October 10, 1956

The October Meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth.

There were ten members and two guests present. The meeting was opened by the President, John T. Connell, M.D. Eji Suyama, M.D., of Ellsworth was elected a new member of the Society.

The speaker of the evening was William M. Shubert, M.D., of Bangor who spoke on "Forceps Delivery." His talk was illustrated by lantern slides and followed by a discussion period.

ARTHUR M. JOOST, JR., M.D.
Secretary

LINCOLN-SAGadahoc

October 16, 1956

The monthly meeting of the Lincoln-Sagadahoc County Medical Society was held at the Ledges Inn, Wiscasset. There were sixteen members and guests present.

The meeting was called to order by the President, Joseph I. Smith, M.D.

Everett D. Schubert, M.D., was appointed chairman of the committee on diabetes. He will arrange to have free urinary sugar tests offered to the public during diabetes week, November 11-17.

Francis A. Winchenbach, M.D., discussed the Medicare Program of care for servicemen's dependents, and the problems it raises for the state and local medical societies. He urged the County Society to co-operate with the Maine Medical Association in establishing a fee schedule for Maine. He further urged that the individual society members become acquainted with the new law and keep informed as to the medical profession's reaction to it.

The meeting was then turned over to John H. Fisher, M.D., of Boston Floating Hospital, who discussed staphylococcal pneumonia and its increasing incidence in relation to antibiotic therapy.

EVERETT D. SCHUBERT, M.D.
Secretary

OXFORD

October 10, 1956

The annual meeting of the Oxford County Medical Society

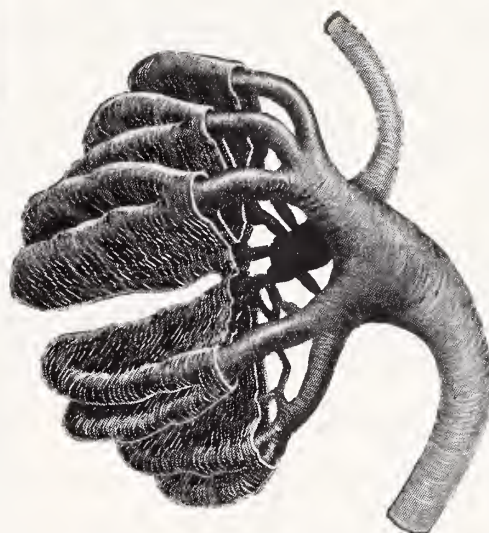
Continued on page 364

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SEARLE

COUNTY SOCIETY NOTES

Continued from page 362

was held at Bethel Inn, Bethel, Maine on Wednesday, October 10, 1956.

The following officers were elected:

President, Norman M. Jackson, M.D., Rumford.

Vice-President, Francis J. Kadi, M.D., Greenwood Mountain.

Secretary-Treasurer, Harry L. Harper, M.D., South Paris.

Councilors, Roswell E. Hubbard, M.D., Waterford (1 year),

Dexter E. Elsemore, M.D., Dixfield (2 years), Henry M. Howard, M.D., Rumford (3 years).

Delegates to Maine Medical Association, James A. MacDougall, M.D., Rumford (1 year), Garfield G. Defoe, M.D., Dixfield (2 years). Alternates, Walter G. Dixon, M.D., Norway (1 year), Dexter E. Elsemore, M.D., Dixfield (2 years).

G. W. Miller, M.D. of Norway, and Ake Akerberg, M.D., South Paris were elected to membership.

H. F. Rheinlander, M.D., of Boston was the speaker and gave an interesting paper on the Surgical and Medical Management of Cardiovascular diseases.

P. B. AUCOIN, M.D.
Secretary

YORK

October 10, 1956

The October meeting of the York County Medical Society was held at the Woader Bar Steak House in Biddeford, Maine.

An interesting and instructive talk was given by Stanley E. Herrick, M.D., of Portland on the Use of Radioactive Iodine in Thyroid Disease.

No action was taken on the fee rates for the physicians.

There were seventeen members and two guests present. Members: Drs. Thomas Anton, Melvin Bacon, Leandre R. Charest, Robert F. Ficker, Andre P. Fortier, Charles W. Kinghorn, Joseph R. LaRochelle, Louis C. Lesieur, James H. MacDonald, William F. Mahaney, Marion A. K. Mouiton, Joseph M. Patane, Carl E. Richards, Roger J. P. Robert, William T. Roussin, Leopold A. Viger, Eugene P. Wolfhart. Guests: Eugene E. O'Donnell, M.D., of Portland, Councilor for the First District, and Dr. Herrick.

The next meeting will be held in Kittery.

C. W. KINGHORN, M.D.
Secretary

NEW MEMBERS

HANCOCK

Eji Suyama, M.D., 36 W. Main Street, Ellsworth.

OXFORD

G. W. Miller, M.D., 16 Deering Street, Norway.

Ake Akerberg, M.D., 1 Park Street, South Paris. (Transferred from Somerset County).


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Herman J. Weisman, M.D.
From—76 Limerock Street, Rockland
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Letter to the Editor

Dear Dr. Hanley:

As delegate from the Maine Medical Association I attended the combined New Hampshire and Vermont annual convention held at Newcastle, N. H.

The delegates meetings were prolonged affairs with much discussion over the new Medi-care Program. Very evident was the lack of information among a great many of the delegates. So much so, that Doctor Ford the new president of the New Hampshire Medical Society in his inaugural address pleaded with the county societies to select delegates who would take the time to become enlightened on association affairs prior to attending the business sessions.

The Medi-care Program is a move by the government to provide medical care for some two million dependents of members of the armed forces and will have a tremendous impact on the practice of medicine. We must be prepared to try to direct its course and have some measure of control.

The sectional meetings were well attended. The general session with Paul Dudley White was, of course, the main event.

FRANCIS A. WINCHENBACH, M.D.
Bath, Maine


Notice

Maine Chapter
American Academy of General Practice

The following officers have been elected for 1956-1957:

President: Thomas G. Harvey, M.D., Caribou
President-Elect: Paul C. Marston, M.D., Kezar Falls
Vice-President: Robert A. Graves, M.D., Fort Fairfield
Secretary-Treasurer: Sidney R. Branson, M.D., South Windham

Directors: Francis A. Fagone, M.D., Portland (3 years)
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Across The Desk

Continued from page 358

cents in 1955, whereas the hospital's share rose from 14 to 27.8 cents.

One reason for the rise in hospital service expenditures is that hospital services have expanded, the editorial said. More persons are hospital patients and more

babies are born in hospitals. Another reason is that hospital prices have risen more rapidly than physicians' fees because hospitals are more exposed to inflationary forces.

WHO Studies Effects of Radiation on Human Heredity

A World Health Organization study group has made a report on the effects of radiation on human genetics, as part of WHO's participation in the public health aspects of peaceful uses for atomic energy. The group was headed by Dr. Alexander Holland, director of the biology division, Oak Ridge National Laboratory. Pan-American Sanitary Bureau, in making public portions of the report, stated: "... they found strong grounds for believing these genetic effects to be cumulative so that

in the long run a small amount of radiation received by each of a large number of individuals could do an appreciable amount of damage to later generations."

A question to which the group devoted close attention was the need for accurate measurement and recording of exposures to radiation, in order to provide background information needed for analyzing the genetic effects. In hospitals where such recordings were started there has been a 30% reduction in the total exposure of the staff.

Coronary Deaths Show Differences by States

A statistical study by Public Health Service discloses marked variations among the various states in death rates from coronary heart disease. Some states have

rates twice as high as others, according to findings which are published in Sept. 20 issue of PHS official "Public Health Reports." Authors are Philip E. Enterline, chief

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Brunswick, Maine

statistician of heart disease control program, and Dr. William H. Stewart, assistant director of National Heart Institute. Their survey year was 1950.

States with lowest death rates for coronary heart disease in white males were New Mexico (191.1 per 100,000 population); Arkansas (201.2) and Kentucky (211.2). At other extremes were New York (393.8), Rhode Island (364.3) and District of Columbia (344.3). For white females, variations were still greater: 83.4 in New Mexico, 87.8 in Arizona, 89.0 in Nebraska, 217.4 in New York, 176.6 in New Jersey, and 175.6 in Rhode Island.

Authors are inclined to believe that the differences are genuine, and not ascribable to inconsistencies in reporting or diagnosis. Explanations possibly could lie in differences in diet, physical characteristics and hereditary factors, they say.

Commented Dr. James Watt, director, National Heart Institute: "The present study has provided information which can serve as the starting place for more detailed, more revealing investigations throughout the country which will throw important new light upon coronary heart disease."

M.M.A. Approved Health, Accident and Life Insurance Expanded

Members of the association who are not yet age 60 are eligible for insurance, regardless of past medical history, paying up to \$100 weekly if they apply for insurance within 40 days after becoming a member of the association. Basic policy includes death and dismemberment benefits. Hospital and surgical benefits, in addition to the weekly indemnity, covering the insured and/or his family are also available; but the hospital and surgical benefits available only to applicants acceptable to the company. No physical examination required.

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Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

Acceptable Standards In The Treatment Of Tuberculosis

A Joint Statement of the Committees on Therapy and on Administrative Problems of the American Trudeau Society, *American Review of Tuberculosis and Pulmonary Diseases*, April, 1956.

This statement represents the joint and considered opinion of the American Trudeau Society Committees on Therapy and on Administrative Problems.

In recent years the discussion of hospital and home care of patients with tuberculosis has tended to cloud certain concepts which need re-emphasis.

Tuberculosis remains a chronic, infectious disease. It requires long and continuous treatment. The physician should be assured of the cooperation of the patient and family. This is necessary to be sure that the treatment and other recommendations made will be followed in compliance with good clinical and preventive medical practices and the regulations of the local Boards of Health.

Good medical practice requires the maximum facilities for clinical evaluation of a case, which, in most instances, can be done best in the hospital where appropriate treatment can be started. Preferably it should be continued until the patient's condition is satisfactorily stabilized. Now with more effective treatment methods, it may be reasonable to modify the period of hospitalization for certain selected cases. The treatment of tuberculosis remains difficult and the results in individual cases are frequently unpredictable. When home care is used, it must be carefully coordinated with hospital care, particularly during treatment of the active stages.

To secure the best results, certain standards must be met:

1. *Medical care.* The patient should be under the continuous supervision of a well-trained physician or group of physicians who thoroughly understand the care, management, and treatment of tuberculosis. As most cases will involve both hospital and home care, there must be maximum coordination of inpatient and outpatient services and careful cooperation with the private physician in the approach to this treatment.

2. *Diagnosis.* Facilities must be available for the diagnosis and subsequent management of all patients. These would include readily available roentgenographic examinations with facilities for special examinations, such as stereoscopic films, planigraphy, fluoroscopy, and other needed measures. Provisions must be made for clinical laboratory examinations, biopsy, bronchoscopy, and other necessary tests so frequently required to make a correct diagnosis.

3. *Isolation.* Tuberculosis remains a communicable disease and this fact needs to be kept continuously in mind. Facilities must be available for the isolation of the patient to protect the members of his family and the public. It must be remembered that sputum often does not become negative for *M. tuberculosis* during the first several months of treatment and too frequently fails to convert in advanced cases even under the best therapy.

4. *Nursing.* Rest and nursing care must be assured for the patient. Provisions for rest must include both physical relaxation and psychological rest with all that this implies. Nursing care includes not only the physical aid given by the nurse to the patient, but also the assistance to the physician in the education of the patient concerning his disease and the necessity for treatment.

5. *Nutrition.* A well-balanced diet is a necessity. Assistance in the selection and preparation of this diet will be needed, particularly in the early months of therapy.

6. *Drug therapy.* Antimicrobial therapy must be available for long-term, continuous treatment in accordance with accepted regimens. The drug regimen should be determined on medical factors alone, and should not be influenced by the convenience of the patient, physician, or nurse. *Once started, antimicrobial treatment should be continued without interruption as long as medically indicated.*

7. *Sputum examinations.* Laboratory facilities must be available to provide periodic examinations of sputum or gastric contents at regular intervals. This will vary from frequent examinations at the start of treatment to at least bi-monthly examinations after several months. Studies must include cultures at regular intervals, especially when smears are negative for *M. tuberculosis*. Cultures of positive sputum are necessary for diagnostic identification, viability, and drug-susceptibility tests. It is advisable to include the studies of the bacilli for drug susceptibility, and the results should be evaluated in conjunction with clinical data. Alterations in therapy should not be made hastily on the basis of these results alone. Other laboratory studies to detect early evidences of drug resistance should be made.

8. *Surgery.* Surgical consultations should be held early and often, in view of the large number of patients who require surgery. There must be access without delay to hospitals well equipped for thoracic surgery.

9. *Adjunct services.* All auxiliary services such as recreation, occupational therapy, education, medical social service, and rehabilitation should be available from the beginning of the treatment period.

10. *Follow-up.* Long-term clinical, radiographic, and bacteriologic follow-up is essential after the patient returns to community life and should be available in order to detect a possible relapse.

11. *Patient education.* It is essential for the patient to understand his disease for successful and permanent recovery. Patient education by the physician, assisted by the nurse and others, thus becomes of major importance in treatment.

The patient with tuberculosis needs all of the above-mentioned services during various periods of his disease and treatment. Neither home care nor hospital care that fails to provide these services can be considered adequate at this time. It has not yet been proved that even the less destructive forms of tuberculosis can be treated adequately without these aids, although many studies are now in progress.

Most patients would benefit and could be assured of better success if treatment were initiated and continued in a hospital for as long as indicated before continued in the home. It seems obvious that these necessary facilities and services can best be provided in a hospital during the active stages of the disease. During subsequent phases, these services should be made available to the patient at home.

Morris C. Thomas, M.D., *Chairman,*
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The Journal of the Maine Medical Association

Volume Forty-Seven

Brunswick, Maine, December, 1956

No. 12

Salmonella Salad

JOHN S. HOULIHAN, M.D.* AND WILLIAM J. CARNEY, M.S.P.H.**

RECIPE

Ingredients:

- 1 CARRIER SALMONELLA
- 1 DOSE POOR PERSONAL HYGIENE
- 2 QUARTS SALAD

Directions:

Add 1 pinch feces to salad and mix well. Do not refrigerate. Cook for 2 hours at room temperature. Best prepared on hot days. May be served with ham or tuna fish.

During the past year the State of Maine has experienced several outbreaks of Salmonellosis due to various species of the organism. Seven outbreaks, one of them food-borne and several sporadic cases have been reported. Salmonella organisms responsible for outbreaks have been hiedelberg, montevideo, typhimurium, stanley, enteritidis, javiana and munchen. Additional species found in the state this year are bareilly, hartford, oranienburg, choleraesuis and panama. This increase of Salmonellosis and diversity in specific causative agent is not unique to Maine but has been the experience throughout the country in recent years.

The largest proportion of Maine's 81 cases reported up to October first of this year resulted from a food-borne outbreak after a school lunch served on June 14, 1956.

66 pupils and teachers partook of the meal to some extent.

56 individuals ate some of the infected food.

51 of these were clinically ill.

5 were not clinically ill.

9 individuals either did not eat the infected item or could not be located.

1 person was a healthy carrier.

The school lunch on Thursday, June 14, 1956 consisted of the following:

1 tuna fish salad sandwich.

1/2 ham salad sandwich.

1 slice American cheese.

Pickles.

Ice cream.

Chocolate cake with icing.

Orange juice.

On the following weekend, a total of 35 patients consulted 18 different physicians. No physician was consulted by more than 5 patients. A food-borne outbreak was suspected and reported by one physician on Monday, June 18. With such a distribution of cases,

*From Medical Service, Eastern Maine General Hospital, Bangor, Maine.

**City Health Officer, Bangor, Maine.

it is not surprising that others overlooked the possibility of a food-borne infection.

CLINICAL SUMMARY

The incubation period of this infection averaged twenty-two hours. However, two people did not report any symptoms until after thirty hours.

The clinical features of the cases in our series were primarily those of sudden onset, headaches, nausea, vomiting, dizziness, weakness, abdominal cramps, chills, and fever. The fever ranged from 99 to 104 degrees Fahrenheit and was accompanied by severe diarrhea with the most severe cases reporting 20-25 stools a day, associated with a small amount of blood. In the more severe cases the symptoms gradually subsided over a five-day period; however, some cases were relatively mild and symptoms persisted for only twenty-four hours.

Three patients were hospitalized. The treatment was mainly the usual antidiarrheal drugs. Some patients were treated with antibiotics. None of the various antibiotics used in this study seemed to have any specific effect.

EPIDEMIOLOGY

Recognition of a food-borne outbreak developed when the mother of one of the sick children compared notes with some of her neighbors. She found that their children were also sick and reported this fact to the school authorities. The school principal telephoned other parents, confirmed the suspicions and reported his findings to the City of Bangor Department of Health.

The report of the outbreak was received by the Public Health Nursing Supervisor, who upon preliminary investigation secured a sample of salad dressing. This was the only item of food remaining on Monday from the common meal that was served on Thursday. The salad dressing was brought to the Eastern Maine General Hospital Monday afternoon for analysis.

It was reported that 66 individuals participated in the school lunch program. No roster was kept. The school principal provided the names of more than 100 individuals who might have been present. Telephone calls were made to confirm the existence of an intestinal disturbance, to obtain information on symptoms and to discover the normal incubation period for the infection. The picture of a typical Salmonella outbreak was presented epidemiologically. Stool specimens were collected Monday evening and brought to the Eastern Maine General Hospital.

The literature on Salmonella infections has implicated meat products with a high degree of consistency. From a review of the menu, the ham was under serious suspicion. However, as more of the 51 clinically-ill individuals were contacted it was recognized that they had consumed either some portion of the ham salad sandwich and/or the tuna salad sandwich. Therefore, the common food was the salad dressing itself and not the ham or tuna. The salad dressing was prepared in accordance with a homemade recipe. A two-quart portion was prepared on Thursday, June 14, 1956. To

TABLE I
CHRONOLOGICAL ACCOUNT
OF A
SALMONELLA OUTBREAK

Media	Time	Temperature
A nutrient salad dressing	8:00 A.M.	80° F June 14, 1956
	8:15	
Prepared with	8:30	
the addition	8:45	
of 1½ cups left	9:00	84° F
over from 6/11/56	9:15	Official temperature reported by the CAA Weather Station Old Town, Maine.
	9:30	
	9:45	
Mixed with ham	10:00	
and tuna fish	10:15	87° F
	10:30	
Spread on	10:45	
sandwiches stored	11:00	87° F
on the counter	11:15	
	11:30	
MEAL	11:45 MEAL	
	12:00 Noon	87° F

this was added approximately one and one-half cups of the same mixture prepared on the previous Monday, June 11, 1956. The week of June 11 was one of the hottest of the year. The temperature was in the high 80's outside. Salmonella grow well at 80 to 100 degrees Fahrenheit. Either one of two possible situations occurred:

1. The left-over salad dressing of Monday's preparation was contaminated with Salmonella between Monday and Thursday, or
2. Thursday's preparation of salad dressing was contaminated in preparation on Thursday morning.

Thursday's preparation of salad dressing was unrefrigerated at least two hours, either in its preparation, its mixture with the ham or tuna fish, or in the individual sandwiches. All of the factors necessary for a food-borne outbreak were present. The salad medium was rich, the temperature was optimum, the time factor was present and the salad was contaminated with a Salmonella organism. (Table I.)

The presence of Salmonella hiedelberg was confirmed by the United States Public Health Service, Communicable Disease Center at Chamblee, Georgia.† Salmonella hiedelberg was found in the salad dressing, the stools of the clinical cases and the stools of the food handler who prepared the salad. The food handler was not clinically ill and did not eat any of the salad dressing. The one other food handler ate some of the salad and was clinically ill. No history of previous intestinal disturbances could be obtained from the healthy food handler.

PUBLIC HEALTH APPROACH

The City of Bangor Public Health Advisory Committee recommended that for asymptomatic cases and for

†The definitive identification of the Salmonella organisms in the salad and the early stool specimens was done at the National Salmonella Center in New York City.

TABLE II
CARRIER STATUS OF FIFTY-ONE
SYMPTOMATIC CASES OF
SALMONELLA INFECTION

	TESTED		POSITIVE		PER CENT OF TOTAL SYMPTOMATIC CASES
	Number	Per Cent	Number	Per Cent	Positive
June	14	27.5%	12	85.7%	90.0%*
July	46	90.2%	29	63.0%	58.8%
August	42	82.4%	6	14.3%	11.8%
September 26†		51.0%	5	19.2%	9.8%

*An insufficient number (27.5%) of symptomatic cases were tested in June to present a statistically significant figure. It is assumed that if an attempt had been made to secure a series of stools on all clinically-ill people during the acute phase of the illness more than 90% would have been positive.
†Eleven individuals were released from precautions prior to September collection of specimens.

mild symptomatic cases no treatment should be given except under unusual circumstances. For severe cases, the drug of choice recommended was Chloromycetin[®] with a therapeutic dosage of fourteen days. The 57 individuals known to have consumed a portion of the infected food, whether or not they were actually clinically ill, were placed on the following precautions:

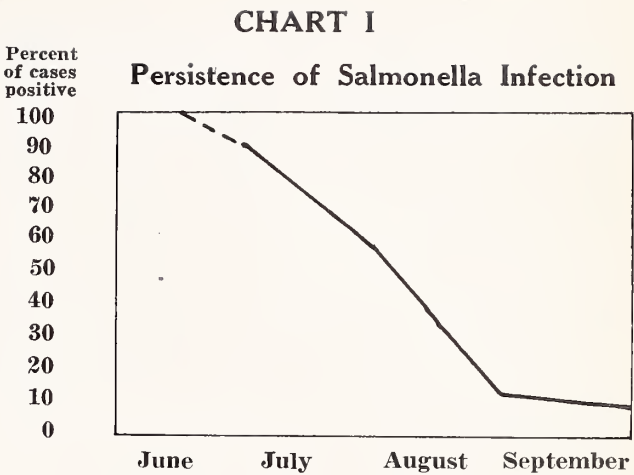
- 1. To notify their family physician that they had been involved in a food infection.
- 2. To report any relapse of clinical symptoms.
- 3. To use good personal hygiene practices.
- 4. To discontinue any milk or food preparation activities.
- 5. To sterilize articles soiled by fecal materials.
- 6. To forego plans for participation at summer camps.
- 7. To secure fecal accumulations against access by insects or rodents in areas without a sewer.

The criterion for release from these precautions was the passage of two monthly series of three consecutive negative stools.

CARRIER STATUS

The carrier status of the 57 individuals who consumed the infected portion of the meal was actively pursued for three months with 400 stool specimens collected. A total of 51 of these individuals were clinically ill, (46 pupils, 12 to 14 years of age and 5 teachers), 5 others were not clinically ill, the other is the one we have assumed to be the asymptomatic carrier. Table II reveals our activity in this field. No stool specimens were collected within one week of antibiotic therapy. The stools were then collected in series of three with the hope that we could get consecutive specimens.

Chart I reveals our experience with carriers. The results compare with those of Rubenstein,⁽¹⁾ whose study



of 710 cases indicates we may expect approximately 3% of the cases to remain positive at the end of the year. A person was considered positive if one of the series of three stools contained the Salmonella. Within this criterion, the carriers had a considerable range.

	June	July	August	September
B.B.		+++	— + —	— + —
R.G.		++—++	— —	— + —
J.P.		— — — —		— — +
E.R.	+	+++	+++++	+++
R.W.	+	+++	++++	

The five people who ate the salad sandwiches and who were not ill were also followed. One of these, a teacher, remained positive for ten weeks. One child submitted 5 specimens over a two month period from which Salmonella montevideo was isolated. This girl ate the infected food and was clinically ill, yet never submitted a stool containing Salmonella hiedelberg.

DISCUSSION

Food-borne outbreaks of disease occur with more frequency than is generally recognized. They usually are treated as a non-specific gastroenteritis unless one has seen a significant number of patients to arouse his suspicions to the point of initiating an epidemiological study. Most of the outbreaks are reported because of some common denominator in the participants of the meal such as would occur in an institution, at a banquet, on a picnic or during a school lunch. More frequent use of Hospital and Public Health Laboratories with a good selection of specimens would result in the recognition of specific infections and better control. There were no secondary cases or clinical relapses in our study. This is consistent with the findings of Ross⁽²⁾ and Anderson.⁽³⁾ Rubenstein⁽¹⁾ showed a high percentage of secondary infections among household contacts in his 1944 study. Later Rubenstein⁽⁴⁾ sampled 205 household contacts of persons infected with Sal-

monella newport and reported 13 secondary infections (4 clinical and 9 subclinical). He attributed this small number of secondary infections to "the value of prompt follow-up study of Salmonella infections by local health departments." Our study substantiates the fact that good personal hygiene and proper food sanitation will practically control the spread of this infection.

Our experience with intermittent carriers indicates that the requirements of two series of three consecutive negative stools one month apart is a more effective control measure than the existing State of Maine regulation of three acceptable stool specimens taken not less than 48 hours apart.

We agree with those who feel that subclinical infections should be pursued with as much activity as clinical cases with the same criterion for release from carrier status.

We would like to emphasize the importance of establishing the etiological agent in cases of gastroenteritis,

particularly in people involved in milk and food preparation.

SUMMARY

A Salmonella food-borne infection is described with a clinical summary of the cases and the effects of treatment. The epidemiological investigation and public health approach to the problem are presented. The persistence of the carrier state is related. Methods of controlling Salmonella infections are discussed.

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Maxillary Odontogenic Cysts Enucleation Combined With A Caldwell-Luc Procedure*

WILLIAM J. DEIGHAN JR., D.M.D.
Bangor, Maine

Odontogenic cysts are a type of epidermoid inclusion cyst histologically similar to epidermoid inclusion cysts found elsewhere in the body. In this case the epithelial elements believed to be responsible for the lining membrane of the cyst are derived from elements involved in the histogenesis of the teeth.

These cysts are classified by origin or position. Bernier⁽¹⁾ has given the most recent and probably the most accurate classification. This is broken down into several sub-classifications but for practical purposes there are two most common types, the radicular cyst and the follicular (dentigerous) cyst, in order of occurrence.

The radicular cyst forms in relation to the root of the tooth and the dentigerous cyst usually forms in relation to the crown. These cysts are found in both the maxilla and the mandible. This article will deal with the treatment of large maxillary odontogenic cysts encroaching on the maxillary sinus. The treatment is enucleation combined with a Caldwell-Luc procedure. This technique is not new and has been used with

success in the past.⁽²⁾ The purpose of this paper is to strengthen the use of a sound technique aided by a report of three cases.

SYMPTOMATOLOGY

These cysts may produce no symptoms but can grow slowly for years, gradually expanding. When an acute infectious process is superimposed, the symptoms may be pain, swelling, elevation in temperature, cellulitis of the face, and general malaise. A chronic secondary infection may occasionally be evidenced by the presence of purulent drainage through an intra-oral sinus tract. Many of these cysts are first seen on routine dental X-ray examination, but may grow to such a size that facial asymmetry can be noticed.

DIAGNOSIS

Intra-oral swelling and malocclusion may reflect the presence of a large cyst. Swelling may be non-inflammatory and crepitus may be felt on palpation. The diagnosis may be substantiated in part by proper roentgenographic studies. Intra-oral films may be taken using small dental films and occlusal films. Lateral skull and postero-anterior views may be helpful. The in-

*From the Oral Surgery Service of the Eastern Maine General Hospital.

jection of radiopaque iodized oil after aspiration of the cystic contents may help to establish the diagnosis but is a greater aid in determining the extent of the cyst and its relationship to surrounding structures. Diagnosis may be further confirmed at the time of operation, and finally and positively by microscopic examination of the specimen.

Microscopic examination is of great importance since it is well established that occasionally ameloblastomas may arise from the cyst wall and further treatment may be necessary. It is important also to differentiate between the dentigerous cyst and the radicular cyst since ameloblastic changes are more likely to occur in the dentigerous type. This is done by roentgenographic examination as the crown of an unerupted or impacted tooth is generally enclosed in the dentigerous cyst sac. The radicular cyst forms around a root apex of a carious or traumatized tooth.

The possibility of malignant degeneration of the cyst wall is very remote. Bernier states that in 2000 odontogenic cysts examined at the Armed Forces Institute of Pathology, he has never seen evidence of malignant change in the epithelium.⁽³⁾ A few cases of malignant degeneration of the cyst wall have been described in the literature.^(4,5)

HISTOPATHOLOGY

A dense fibrous connective tissue lining is bordered by stratified squamous epithelium. There may be a varying amount of inflammatory cell infiltration in the cyst wall, usually predominantly lymphocytes and plasma cells. The cystic contents may vary, containing blood cells and serum, epithelial debris or cholesterol crystals.

TREATMENT

All dental cysts are approached intra-orally. A muco-periosteal flap is reflected and bone is removed over the area to expose the cyst which is carefully enucleated, taking care not to curette or shred the cyst wall. When a cyst is small, primary closure may be effected with organization of the clot and mucosal healing by first intention. If the cyst is large this treatment would result in a dead space with breaking down of the clot and an accumulation of fluid.

The most common method of treating large cysts is by enucleation, packing with vaseline-iodoform gauze, and leaving a large opening to allow the bony defect to granulate in, healing by second intention. This treatment may require six months to a year for the bony defect to fill in. Another method is by marsupialization. A large opening is made through the mucosa into the cyst wall and the cystic lining is approximated with the oral mucosa. Gradually the cyst is extruded to the surface. This method requires a longer healing time than healing by second intention.

Another method, which the three cases reported illustrate, is used when the cyst is large and encroaches upon the maxillary sinus. The cyst is exposed through

a muco-periosteal flap and the removal of overlying bone. The initial incision is made wide so the flap can be closed primarily over solid underlying bone after any involved teeth are removed. The cyst is carefully enucleated and removed. The adjacent antral membrane is excised and the bony cavity now has become a large anterior chamber of the maxillary sinus. A nasal antrotomy with antral packing may or may not be done. Equally excellent results seem to signify that it may not be necessary. The muco-periosteum is closed primarily. With this method, which admittedly may be used only in adaptable cases, healing is rapid and the patient usually needs no further treatment after two weeks except for periodic roentgenographic follow-up to demonstrate regeneration of the bone. Many times antral involvement and exposure cannot be avoided when removing the cyst wall. In such cases this treatment is a necessity rather than a choice.

CASE REPORTS

Case 1: A 53-year-old negro woman was referred to the oral surgery clinic of the University of Alabama Medical Center on October 19, 1953, complaining that her upper denture caused a sore place on her gum.

Approximately nine years ago she had all her teeth removed. No roentgenograms were taken at that time. Three years later upper and lower dentures were made. At this time an enlargement was noted but she was told she had a deformity of the mouth. The "deformity" gradually became larger until the upper denture cut into the mucosa so badly that the gum became sore and irritated.

Examination showed no facial asymmetry. Intra-orally, the upper alveolar ridge was moderately swollen in the left premolar area. Superimposed on the swelling was a hyperplastic inflamed lesion that resembled a granuloma fissuratum. The swelling seemed fluctuant but did not elicit any tenderness on palpation.

Complete X-ray examination was done including a full mouth series of dental films, maxillary occlusal, postero-anterior and lateral skull films. The occlusal film (Fig. 1) showed best a large radioluscent area in the left maxilla which approximated the maxillary sinus with an unerupted tooth lying in the septum separating the sinus and the cyst-like area. A provisional diagnosis of dentigerous cyst was made.

The patient's medical record was procured from the medical clinic where she had been treated for heart failure, diabetes, and hypertension. The cardiac status was compensated, the diabetes was controlled by diet, and her blood pressure was 190 systolic and 85 diastolic. A complete blood count, bleeding and clotting time, and urinalysis were done and all were within normal limits. The medical clinic was consulted and the patient was cleared for the operation, to be done under local anesthesia on an outpatient basis.

On the day of operation, October 21, 1953 she was premedicated with 2 gr. elixer of Nembutal® 45



FIG. 1. Case 1. Occlusal roentgenogram showing relationship between dentigerous cyst, unerupted bicuspid, and the maxillary sinus.

min. prior to surgery and was given 400,000 U. of penicillin intramuscularly. Under local anesthesia, Xylocaine® with epinephrine 1:100,000 the following procedures were done.

An incision was made along the right alveolar ridge and a wide muco-periosteal flap was elevated superiorly to expose the anterior-lateral wall of the maxilla. The cortical bone was found to be extremely thin and was removed with a rongeur forceps, exposing the cyst wall. The cyst wall was perforated with an 18 gauge needle and 8cc. of reddish crystalline fluid was aspirated. The cyst was then carefully enucleated from its bony cavity and the unerupted tooth with its crown lying within the cyst was elevated out leaving a 3cm. exposure into the antrum. The antral membrane appeared healthy. The muco-periosteum was then replaced and closed tightly with 5-0 black silk interrupted sutures, making the cystic space an anterior chamber of the left maxillary sinus. Intramuscular penicillin therapy was continued for the first five post-operative days. On the first post-surgery day swelling and pain were minimal. After two weeks the patient was clinically healed and had no further symptoms. She was followed for seven months and periodic roentgenograms showed complete

regeneration of maxillary bone in the cystic area. Histopathological examination confirmed the original diagnosis of dentigerous cyst.

Case 2: A 31-year-old white woman was referred to the office on August 27, 1955, by her dentist because her left cheek was swollen.

About 13 years ago the patient had dental roentgenograms taken and was told that she had an impacted upper left cuspid. No further X-ray studies were done nor treatment instituted. She went to her dentist for the removal of a badly carious upper left second bicuspid. The swelling was noticed and the patient was referred for diagnosis and treatment. No symptoms were experienced by the patient.

Examination showed a slight non-inflammatory swelling at the left ala of the nose. Intra-orally there was a slight hard swelling along the left side of the hard palate and in the left canine fossa.

Roentgenographic examination was completed showing a large cyst-like area in the left maxilla around the crown of an unerupted cuspid. (Figs. 2 & 3) A provisional diagnosis of dentigerous cyst of the maxilla was made.

A complete physical examination was done by the patient's physician and she was cleared for anesthesia and surgery.

On September 20, 1955 she was admitted to St. Joseph's Hospital in Bangor for the removal of the cyst. Routine laboratory examination was within normal limits. The patient was given 300,000 U. of procaine penicillin intramuscularly twice a day. The day following admission, under general anesthesia (Sodium Pentothal®-gas-oxygen with naso-endotracheal intubation) the following procedures were done.

The patient was prepared and draped and a horizontal incision was made along the buccal alveolar mucosa. The muco-periosteal flap was elevated superiorly to expose the canine fossa. Overlying maxillary bone was perforated with an osteotome and the opening was enlarged with a rongeur. The cyst wall was exposed and was carefully separated from the bone. The unerupted cuspid was elevated free, leaving an unavoidable opening in the maxillary sinus. The sinus membrane was inspected and appeared normal. The opening joining the sinus and the cyst cavity was enlarged. The muco-periosteal flap was replaced and closed tightly with interrupted 5-0 black silk sutures.

On the first post-operative day swelling was moderate with slight discomfort. The patient was discharged on the second post-operative day. Ten days after surgery the patient had recovered completely and has had no further symptoms. She was followed for a year after surgery at which time roentgenograms showed complete regeneration of maxillary bone.

The original diagnosis of dentigerous cyst was confirmed by histo-pathological examination.

Case 3: The patient, a 15-year-old white boy, was



FIG. 2. Case 2. Occlusal roentgenogram demonstrating crown of unerupted cuspid within the dentigerous cyst.

first seen on June 26, 1956 when referred by his dentist for treatment of a swollen face and a possible cyst.

Five years previously, the presence of a periapical pathological area, 1.5cm. in diameter, over the upper right lateral incisor was first seen by his dentist after routine X-ray examination. Although the boy's parents were advised to have this looked after, there were no symptoms and no treatment was sought. The boy returned to the dentist after five years for routine dental work. The tooth was again X-rayed and it was seen that the cyst-like area had enlarged many times. The patient was reappointed for examination and diagnosis, but before this appointment could be kept, the lesion became secondarily infected.

On examination it was seen that the right infra-orbital area was swollen, as well as the ala of the nose and the right upper lip. The right nostril was almost completely occluded by swelling of the lateral wall. His temperature was 99.2° F. Roentgenograms demonstrated a large radioluscent area which involved most of the right maxilla and involved the apex of a carious upper right lateral incisor. The provisional diagnosis was radicular cyst.

The patient was given 600,000 U. of procaine penicillin intramuscularly, instructed to use hot saline rinses, and to apply hot packs to his face. The following morning he returned to the office prepared for a general anesthetic. Under N₂O, O₂, and trichlorethylene anesthesia, the upper right lateral incisor was extracted releasing about 10cc. of pus. The patient was continued on antibiotic therapy, irrigated and treated for one week. When all infection had subsided, further X-ray studies with iodized oil injected into the cyst-like space showed the size and relationship to other structures. (Fig. 4 & 5)

On July 7, 1956 the patient was admitted to The Eastern Maine General Hospital. Physical examination was done by his physician with no abnormal findings. A complete blood count, bleeding and clotting time, and urinalysis were all within normal limits.

On the day following admission, the operation for



FIG. 3. Case 2. Occlusal roentgenogram showing palatal extent of the cyst.

removal of the cyst was done under general anesthesia, (Sodium Pentathal®), gas-oxygen-ether, with nasotracheal intubation). A horizontal incision was made along the buccal mucosa and a large muco-periosteal flap was reflected superiorly. The anterior wall of the maxilla was seen to be very thin and was removed with a rongeur forceps to expose the cyst wall. The cyst was carefully separated from its bony cavity and removed. It was noticed that there was no bony septum between the cyst and the antrum but the antral membrane was intact. The membrane separating the two cavities was excised making them into one. A nasal antrotomy was done and the cavity was packed with vaseline gauze which was brought through the opening in the inferior meatus, out of the nostril, and taped to the face. The muco-periosteal flap was then closed with 5-0 black silk interrupted sutures.

Two days post-operative the patient was discharged. Swelling was moderate. Four days after the operation, the antral pack was removed under nitrous oxide-oxygen analgesia. Penicillin was continued by mouth for seven post-operative days. The patient continued to improve and after three weeks there were no further symptoms.

Microscopic tissue examination confirmed the original diagnosis of radicular cyst.



FIG. 4. Case 3. Lateral skull film showing relationship of radicular cyst injected with iodized oil to the antrum and orbital floor.

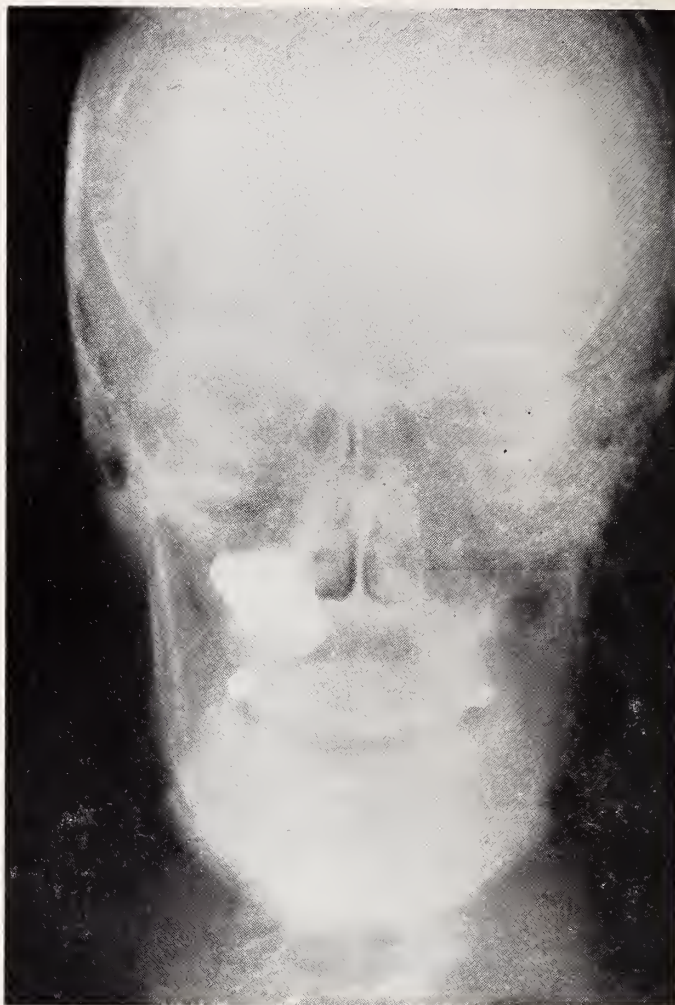


FIG. 5. Case 3. Postero-anterior film showing mesial and lateral extent of the cyst (injected with iodized oil).

SUMMARY

A method of treatment of maxillary cysts is propounded, which is limited to those large cysts that lie adjacent to the maxillary sinus. This is a complete enucleation combined with a Caldwell-Luc procedure. Occasionally these cysts cannot be separated from the sinus wall without perforating the sinus. In these cases this is the only treatment of choice. In cases where the sinus is not inadvertently entered, it should be connected with the cyst cavity since healing and post-operative visits and treatments are reduced to a minimum.

Three cases are presented where a maxillary cyst is enucleated, the cyst cavity was opened into the adjacent

maxillary sinus and the oral opening was closed primarily. In the third case a nasal antrotomy was performed and the sinus was packed with vaseline gauze. All three cases show equally good results with rapid healing and with no further symptoms.

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17 Medical Schools Complete \$65 Million in Construction

Seventeen medical schools — 16 in the United States and one in Canada — have reported completion of construction projects costing 65 million dollars during the 1955-56 school year.

During the same period, 17 schools in the United States and two in Canada have undertaken new construction projects costing approximately 45 million dollars.

The Bedside Evaluation Of The Atherosclerotic Limb*

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Patients with symptoms due to chronic obliterative arterial disease in the lower extremities are a common problem to clinicians. The object in treatment of such patients is to preserve or restore useful function of the involved extremities for as long a period of time as possible. In the past there has been little short of major amputation to offer patients with severe symptoms due to arteriosclerosis. In recent years, however, methods of improving the blood supply of ischemic limbs have been developed. These methods are applicable only to selected patients with arteriosclerosis. They do not affect the underlying progressive disease process and are therefore only palliative in type. Despite this it cannot be denied that such palliative procedures are worthwhile if they can be safely carried out, and if useful function can be restored to a limb for one or more years.

It is important therefore to carry out a careful and thorough evaluation of the arteriosclerotic limb. It is also important to do this before the stage of gangrene has become established. Such an evaluation can in large part be carried out at the patient's bedside or in the doctor's office without the aid of complicated instruments or expensive tests. It is the purpose of this paper to stress the important features in the history and examination of patients with ischemic limbs, so that the applicability of the various present day methods of treatment can be determined. We shall confine our considerations here to chronic obliterative arteriosclerosis. Peripheral arteriosclerotic aneurysms and acute arterial thrombosis are separate subjects in themselves, although both are important features of the general category of arteriosclerosis in the extremities.

Atherosclerosis produces its disastrous effects in the extremities by obstruction of major vessels. Sites of predilection for gradual atherosclerotic occlusion are the distal aorta, the iliac arteries and the distal third of the femoral arteries. Less commonly smaller arteries such as the anterior and posterior tibial are involved.⁽¹⁾

CLINICAL PICTURE

History: Arteriosclerosis obliterans is a progressive disease. However, its course may be characterized by long periods of quiescence with intermittent exacerba-

tions. The symptoms depend upon the extent, the site, and the rapidity of obstruction to major arteries. The chief symptom of patients with obliterative arteriosclerosis is pain, which may follow several different patterns. Intermittent claudication is the most frequent and often the earliest symptom. This may be considered analogous to the pain of angina pectoris, in that both are produced by ischemia of muscle, both may be diagnosed by history alone, and in both the pain comes on during exertion and is relieved by rest. Claudication is characterized by a sensation of local fatigue, aching, or a cramp. The location depends on the site of arterial obstruction. If the femoral artery is blocked claudication may occur in the calf muscles. Gradual thrombosis at the bifurcation of the aorta characteristically produces claudication in the thighs and buttocks. With extensive arterial obstruction the pain of intermittent claudication may come on after the patient climbs a flight of stairs or walks a hundred feet. If the obstruction is small and there is good collateral circulation the patient may be able to walk one-half mile or more before the onset of symptoms. Any patient over the age of 50 who develops symptoms typical of claudication will almost always be found to have arteriosclerosis obliterans.

As the occlusive process progresses pain develops when the extremity is at rest. This indicates ischemia of tissues even under basal conditions and is of ominous significance. The pain is usually in the toes or foot, consists of a steady dull ache, and is frequently worse at night. The patient may obtain some measure of relief by keeping his foot in a dependent position and by rubbing the painful area. This type of pain may persist until the stage of gangrene is reached.

Another type of pain associated with arteriosclerosis obliterans is due to ischemic degeneration of peripheral nerves. The pain follows the distribution of the involved nerve, may be constant or intermittent, and may be associated with paresthesias such as tingling, numbness, burning, and prickling sensations. Such symptoms are of course not pathognomonic of vascular disease and are often associated with primary neurological diseases. Intolerance to cold weather, and sensations of coldness in the feet are other common symptoms of obliterative arteriosclerosis. Weakness, stiffness and atrophy of muscle in the involved extremity are often present in advanced cases.

*Presented before the Maine Heart Association, Rockland, Maine, June 26, 1956.

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Examination of the Patient. Changes in the pulses of the lower extremities are the cardinal sign of arteriosclerosis obliterans. The normal femoral artery pulsations in the groin are easily felt. In a thin person the pulse can be felt along the upper half of the antero medial aspect of the thigh by compressing the vessel against the femur. A not uncommon site of occlusion of the femoral artery is near the origin of the profunda branch, a short distance below the groin. If pulsations can be felt below this point in one thigh and not in the other, there is good evidence for such an occlusion. The popliteal artery is sometimes difficult to feel when present. If this pulse cannot be felt with the patient supine and the knee flexed somewhat to relax the hamstring and gastrocnemius muscles, then it may perhaps be more easily found by having the patient turn onto his abdomen in the prone position with the knee flexed 90°. If there is a strong femoral pulse and an absent popliteal pulse an arterial occlusion in the thigh, most often the distal third, can be expected. If the femoral pulse is weak or absent just beyond the inguinal ligament, a partial or complete block can be expected above this site, most often at the bifurcation of the aorta or in the common iliac artery. In the feet the dorsalis pedis artery should be sought just lateral to the prominent extensor tendon of the big toe. It must be remembered that there may be congenital absence, usually bilateral, of this vessel, or it may follow an abnormal anatomical course. The posterior tibial artery, located just behind the medial malleolus is a more constant vessel, and more reliable in determining the presence or absence of obliterative arterial disease. To be certain he is feeling the patient's pulse and not his own fingertip pulse the examiner can with his other hand simultaneously palpate his own radial or carotid pulse.

The oscillometer is an instrument that measures the amplitude of pulsations at various levels in the extremity. Its chief value is to confirm the information obtained by palpating the pulses. Since this instrument is not readily available to most physicians, an ordinary sphygmomanometer will serve the same purpose roughly. By applying the blood pressure cuff to various levels of the limb, and allowing the pressure to slowly drop after inflation, one can note the presence and degree of fluctuations of the needle or mercury column with each heart beat.

Abnormal postural cutaneous color changes of the lower extremities are diagnostic of occlusive arterial disease. The degree of ischemia may be estimated by the severity of such color changes. If the normal lower extremity is elevated above the level of the heart for 30 seconds or longer, mild pallor normally occurs. In arteriosclerosis obliterans there may be inadequate arterial blood flow to overcome the force of gravity. In the presence of mild ischemia there may be only slightly increased pallor on elevation, whereas if there is extensive obliterative arterial disease, the limb may

become white and cadaveric appearing. One or more toes, a foot, or a greater extent of the distal part of the extremity may be affected, depending on the site of occlusion. When the normal limb is placed in a dependent position after elevation the color returns in about 10 seconds. In occlusive arterial disease the return of color is delayed beyond 15 seconds, and may be as long as 60 seconds if the degree of impairment is severe.⁽¹⁾ The development of redness in the skin of a dependent limb is further evidence of ischemia. This dependent rubor is considered to be due to capillary atony, as a result of anoxia. The redness most often involves the toes but may extend over the entire foot. The length of the time required for the veins on the dorsum of the dependent foot to fill after elevation of the limb is normally under 15 seconds. If there is obliterative arterial disease the venous filling time may be prolonged. The presence of varicose veins invalidates this test.

Skin temperature changes are important in occlusive arterial disease. Special skin thermometers are not ordinarily needed in clinical evaluation, since the back of the examiner's hand can appreciate a difference in temperature of 2° C.⁽²⁾ An ischemic foot is often perceptibly cooler than its opposite member. Also, determination of the level of a limb where temperature drop occurs is helpful in determining the site of obstruction.

Trophic changes that occur in arteriosclerosis obliterans are loss of hair, atrophy of skin, deformity and scarring of the nails. There may be atrophy and wasting of soft tissues. When the stage of gangrene is reached, the first changes usually develop in the distal part of the toes and around the toenails. When gangrene initially develops higher on the limb it is usually the result of trauma, infection, application of heat, or harmful local medications. Gangrene may progress upward as far as the knee, but rarely above this site.⁽¹⁾

SELECTION OF TREATMENT

Through a careful history and examination utilizing uncomplicated tests, a screening at the bedside, or in the doctor's office, of those patients who will be likely candidates for vascular graft can be achieved. The final selection is made by the more complicated procedure of arteriography with accurate localization of obstruction in the arteries. There is a large residue of patients who are not suitable candidates for reconstructive surgery. Some of these patients will benefit from lumbar sympathectomy. Many should not undergo operation and in this group careful measures for the protection and maximum utilization of existing circulation may be rewarded by the prevention of gangrene and ablative surgery.

Direct Surgical Treatment: The patients with chronic arteriosclerosis obliterans who will be benefited by an arterial graft are those who have a localized obstruction and whose general condition is satisfactory to withstand a major operative procedure. Elderly persons

with advanced cardiac, renal, or cerebral disease are excluded from this group, but old age alone is not a deterrent to operation. Patients who have severe symptoms of ischemia in the distal part of a limb but who have a good popliteal pulse are excluded because the obstructed vessels are distal to the point where a graft is technically feasible. If a good femoral pulse can be felt, but the popliteal pulse is absent, then it can be expected that there is obstruction in the femoral artery, most often in its distal third. All such patients who have severe symptoms of ischemia in the extremity and who are in reasonably good general condition should have a femoral arteriogram to determine the proximal and especially the distal extent of the obstruction. A patent vessel of adequate caliber must be demonstrated beyond the obstruction before a graft can be undertaken. A large proportion of these individuals will be found to have a localized femoral thrombosis which can be by-passed by either a preserved homologous graft or a plastic graft with resultant restoration of distal blood flow and striking clinical improvement.

If the femoral pulse is markedly diminished or absent, and of course the more distal pulses will be also, then an obstruction at the bifurcation of the aorta or in the iliac arteries should be sought. An aortogram will disclose the site and extent of such a process, and again an arterial graft may be of great value.

In properly selected patients the early results of arterial graft are excellent in the great majority of cases.^(3,4) Pain in the limb may disappear, localized necrotic areas slough and heal, color changes improve and pulses return. The duration of these striking changes is a matter of some debate. While some authors are enthusiastic others are considerably less so concerning the long term results.^(1,5) It must be remembered that the underlying disease continues to progress and the reconstructive surgery is only palliative. If the patient can walk on his own legs for a year or more longer than with non-operative methods of treatment, then the operation is in the author's opinion, worthwhile.

When a graft is constructed around an occluded segment of artery in the lower extremity, in effect a large collateral vessel is added to the already existing, but inadequate circulation. If the graft fails there is no added risk to the precarious viability of the limb as a result of the by-pass operation because none of the existing collaterals has been interfered with. The operation is not associated with a great deal of trauma and the patient's life is not significantly jeopardized.⁽³⁾

Indirect Surgical Treatment: Many patients who have diffuse atherosclerosis of the lower extremities and are not suitable subjects for arterial graft, may be benefited by lumbar sympathectomy. The peripheral arterioles normally constrict and dilate in response to various stimuli, and these fluctuations in tone are present in the atherosclerotic limb, since the disease affects primarily the large and medium sized arteries. Normal

tone is abolished by sympathetic denervation, so that constant dilatation of the arterioles results. Significant improvement in blood flow can thus be achieved if the vascular occlusive process is not too far advanced. This improvement in blood flow is primarily in the skin and subcutaneous tissue,⁽⁶⁾ but not in the muscles. Therefore sympathectomy is of greater value in forestalling impending gangrenous skin changes and in relieving rest pain in the limb than in improving intermittent claudication. Claudication alone is ordinarily not a good indication for sympathectomy.⁽⁷⁾ The operation may also be of value in permitting successful amputation at a lower level when it is inevitable that some part of a limb be lost. Sympathectomy is contraindicated in the presence of rapidly advancing gangrene, but may be of value in the healing of small localized gangrenous areas or ulcerations. Patients who have both diabetes and atherosclerosis are less apt to benefit from lumbar sympathectomy.⁽⁸⁾ It cannot always be accurately predicted which patients will be benefited by lumbar sympathectomy. In the past lumbar sympathetic block with a local anesthetic agent has been utilized as a test to determine whether response to sympathectomy will be favorable. However, since maximum improvement may not be manifest until several months after sympathectomy,⁽⁶⁾ this test frequently fails to give the desired information. It is doubtful whether any acute test can consistently predict the results of lumbar sympathectomy for peripheral arteriosclerosis, and each patient must be evaluated individually. Only slight amounts of increase in blood flow to the ischemic limb may produce definite improvement both subjectively and objectively.

Non-Operative Treatment: General measures designed to protect the extremity and obtain maximum benefit from the existing circulation are applicable to all patients with obliterative arteriosclerosis. The patient should be instructed in adapting his life to the disease. Daily washing of the feet with careful drying to avoid maceration is important. The toenails should be cut straight across. Corns, calluses, minor infections and traumata should be recognized as being of serious consequence in the ischemic limb, and minor operations in the treatment of these should only rarely be undertaken. Application of hot water bottles, hot soaks, or heating pads to the feet may precipitate gangrene by increasing metabolic requirements of the ischemic tissues and should never be used. Smoking, in all forms, produces prolonged peripheral vasoconstriction which is obviously harmful to ischemic tissues, and should be interdicted.

Patients with intermittent claudication should exercise to the point of tolerance. Elevation-dependency exercises are generally considered to be of value, although some question of this has been raised. The patient should lie down with the extremity elevated along the back of a chair placed in the bed. After 1½ minutes he should sit up with the legs hung over

the edge of the bed for another 1-1½ minutes, and then lie horizontal for 2 minutes before repeating the sequence. This should be done several times daily.

Vasodilator drugs are of questionable value in peripheral arteriosclerosis since they act on the vessels throughout the body and do not produce a selective response in the ischemic extremity. The incidence of side effects is high. Priscoline, tetra-ethylammonium chloride, papaverine, theobromine, and other drugs have been used but have not proved to be of decided benefit when taken orally for prolonged treatment.⁽⁹⁾ Alcohol, up to three ounces daily may be of psychologic value as well as a peripheral vasodilator, as long as this phase of the treatment is not pursued too vigorously. Reflex vasodilatation can be produced by applying heat to the abdomen or other parts of the body with the absolute exception of the ischemic limb.

SUMMARY

The circulation in an ischemic limb can be evaluated generally without the need of intricate instruments and expensive tests. It has been attempted in this paper to present the important factors in such an evaluation,

and to discuss the selection of proper present day therapy for patients with peripheral atherosclerosis.

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Carcinoma Of The Cervix

A Plea For Early Diagnosis

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Cancer of the uterine cervix is the second most common malignant disease in women.⁽¹⁾ With most radiologists it is a daily therapeutic problem; and its prevalence would indicate that physicians in all types of practice sooner or later will encounter the disease.

It has long been recognized that one of the most important single factors affecting the prognosis in cancer of the cervix is the clinical staging.^(1,2) The histological grade of the neoplasm is of no direct importance insofar as the prognosis is concerned.^(1,2)

Employing the commonly accepted League of Nations classification of clinical staging a great many series of patients have been reported emphasizing the importance of early diagnosis in the control of this disease. This becomes readily apparent when one considers that the five-year survival rate for patients treated with radiation drops from an average of sixty-five per cent in Stage I disease to seven per cent in Stage IV. The

average cure rate for Stages II and III are forty-six and twenty-six per cent respectively.⁽³⁾

With these thoughts in mind a review of the clinical staging of all primary cases of cervical carcinoma admitted to this hospital between January, 1951 and January, 1956 was carried out. This group does not include a number of out-patients treated in the Department of Radiology.

In this five-year period a total of one hundred and twenty-eight patients with cancer of the uterine cervix was found. These were divided according to the League of Nations classification as shown in Table I.

Table I: Carcinoma of the Cervix: Clinical Staging

Classification	Number of Patients	Percentage
Stage O (in situ)	12	9%
Stage I	43	34%
Stage II	24	19%
Stage III	35	27%
Stage IV	14	11%

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A comparison with other reported comparable series is shown in Table II.(3,4).

Table II: Comparison of percentages of patients in each stage with other series of similar size.

	Eastern Maine General	Arneson	Mary Hitchcock Memorial
Stage O	9%	—	—
Stage I	34%	29%	41%
Stage II	19%	48%	28%
Stage III	27%	21.2%	13%
Stage IV	11%	1.4%	13%

It is readily apparent that there is a significant variation between our series and the others in that we have a considerably higher percentage of late stage (III and IV) patients presenting themselves for treatment.

Undoubtedly the rural nature of Eastern Maine and the greater distances between patient and physician which are involved in any rural community could account for some of this difference.

Suffice it to say that whatever the factors which account for the variation it should be our objective as physicians to do all that is possible to insure earlier diagnosis and treatment.

Possibly the patient could be further educated by a more widely applied program of publicity. Certain-

ly a great number of these patients waited for periods of up to a year before consulting their physicians.

Another and more readily applicable approach would be the more widespread use of the vaginal smear technique in all tumor clinics and physicians' offices. If such a procedure should come into more routine use on a wide scale there is no question but what a much higher percentage of patients in the early stages of the disease would be available for effective therapy.

In summary it might be worth reiterating that perhaps in no other common disease is it so important that patients be brought to treatment (whether surgical or radiation) in the early stages. With adequate therapy better than three-fourths of all patients with cancer of the cervix could be cured if presented for treatment while the neoplasm were still confined to the cervix by gross examination. A wider use of the routine vaginal smear is urged to accomplish this end.

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Observations On Tumors Of The Salivary Glands

CHARLES D. McEVOY, M.D.* AND RICHARD C. WADSWORTH, M.D.**

Most physicians have had occasion to see a patient with a tumor originating in a salivary gland. Yet few physicians have the opportunity to personally see and treat a large number of these tumors. Because of their relative infrequency and their variability in structure and behavior, a review and analysis of a fairly large group of tumors appear to be warranted.

During the period 1946-56, sixty-seven tumors of the salivary glands have been studied at the Eastern Maine General Hospital. The frequency of such tumors is comparable to that reported in 1950 by Rawson et al. from the University of Pennsylvania Hospital.⁽¹⁾ Mixed tumors constitute the largest single group in our collection. Our experience with mixed tumors does not include any examples originating from the floor of the mouth, lip, cheek, nares, skin, or lacrimal glands, although such origin is recognized.

Our series contains fifty-three benign tumors and fourteen malignant tumors. (Table I.)

The median age of patients with malignant tumors was sixty-two. The youngest was thirty-four; the oldest was eighty.

The benign tumors occurred over a broad age-span. The median age was fifty. The youngest patient, who had a mixed tumor, was ten years old at the time of admission. The oldest was eighty-six. Although Warthin's tumors characteristically occur at a later age than mixed tumors, our series of Warthin's tumors does include a child who was fourteen years old at the time of admission.

G. H. #74921 This 14-year-old girl was admitted to the Eastern Maine General Hospital in September, 1951, with the history of a tumor at the left angle of the mandible of several months' duration. A tumor of the parotid salivary gland was suspected and a simple excision was performed. Pathological examination revealed a typical papillary cystadenoma lymphomatosum (Warthin's tumor).

Warthin's tumors are said to occur almost exclusively in males and in the parotid.^(2,3) All of our Warthin's tumors were in the parotid, but the one case cited above occurred in a fourteen-year-old female.

TABLE I

Classification and Location of Benign and Malignant Tumors			
Type	Parotid	Sub-maxillary	Palate
Benign Mixed Tumor	35	6	2
Papillary Cystadenoma	5	0	0
Lymphomatosum (Warthin's Tumor)			
Neurilemmoma	1	1	0
Hemangioma	2	0	0
Lipoma	1	0	0
Total Benign Tumors	44	7	2
Type	Parotid	Submaxillary	
Malignant Mixed Tumor	2	0	
Mucoepidermoid (High-Grade Malignancy)	1	0	
Mucoepidermoid (Low-Grade Malignancy)	0	1	
Squamous Carcinoma	1	1	
Adenocarcinoma	1	0	
Undifferentiated Carcinoma	1	0	
Papillary Cystadenocarcinoma (Mixed Tumor)	1	0	
Adenocarcinoma (Mixed Tumor)	0	1	
Lymphosarcoma			
Giant Follicle Lymphoma	1	0	
Squamous Carcinoma (Mixed Tumor)	1	1	
Squamous Carcinoma and Adenocarcinoma	0	1	
	—	—	
Total Malignant Tumors	9	5	

Several documented cases of bilateral salivary tumors have been reported previously. The following history is that of our only patient with bilateral tumors.

M. L. H. #2554 This 76-year-old female was admitted to the Eastern Maine General Hospital in September, 1953, complaining of a lump beneath the lobule of the right ear. In addition to a large mass within the right parotid salivary gland, a small mass was present within the left parotid. Bilateral mixed tumors of the parotid salivary glands were suspected. Total right parotidectomy was per-

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FIG. 1. Case no. 23585. Low power view of tumor showing below and to the right the architectural pattern of a giant-follicle lymphoma. Above and to the left can be seen a portion of the tumor showing the polymorphous cell lymphosarcoma pattern.

formed. Pathological examination revealed a typical benign mixed tumor. Operation on the left was advised and was declined.

The majority of our patients with both benign and malignant tumors gave a history of onset one year or less prior to the date of admission. A history of recent rapid growth, while suggestive of malignancy, was obtained from several of our patients with benign tumors. On the other hand, long duration was far from a guarantee of benignancy.

P.F. #81343 This 62-year-old white female was admitted to the Eastern Maine General Hospital in May, 1952, with the history of a swelling anterior to the right ear of fifteen years' duration. A biopsy performed twelve years previously in another hospital had revealed "tumor."

Total excision of the parotid together with resection of the facial nerve was performed. The pathological diagnosis was papillary cystadenocarcinoma in a mixed tumor of the parotid.

Three benign mixed tumors of the parotid were recurrent when first seen at the Eastern Maine General Hospital. Recurrent mixed tumors usually maintain the character of the original tumor, although their gross and microscopic appearance may challenge the surgeon and the pathologist. The following patient illustrates the difficulty in histological diagnosis:

J.L. #70224 This 57-year-old white female was admitted to the Eastern Maine General Hospital in April, 1951, with a large mass beneath the right pinna. Excisions of tumor had been carried out in 1931 and again in 1945 at another hospital. The diagnosis of mixed tumor was made. Following the third excision, the first in this hospital, the patho-

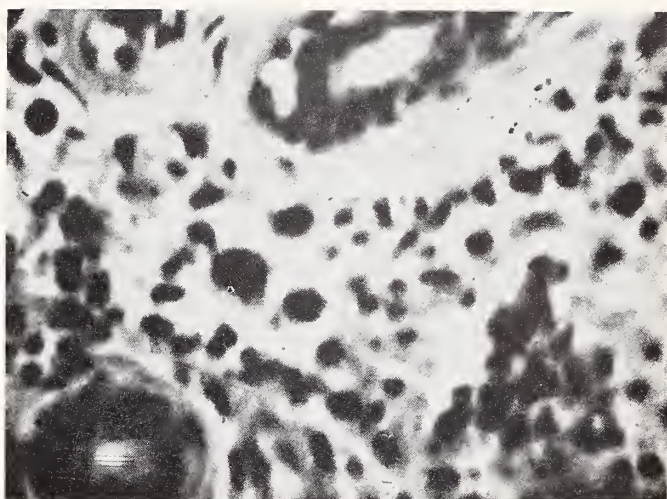


FIG. 2. Case no. 23585. High power view showing cells of the polymorphous cell lymphosarcoma invading the stroma of the parotid gland between the ducts and acini.

logical diagnosis of carcinoma was made. On subsequent review of the pathological slides, the diagnosis was changed to mixed tumor of the parotid. The patient was well and clinically free of tumor three years following the third operation.

The clinical diagnosis of tumor of the salivary glands is often difficult, and the various preoperative diagnoses in our collection attest to this difficulty. In this series, when the preoperative, and, indeed, in some instances the operative, diagnosis was erroneous, usually a less serious or even a trivial lesion was suspected. Sebaceous cyst, hyperplastic lymph node, lipoma, submaxillary adenitis, tuberculous lymphadenitis, and branchial cyst were among the preoperative diagnoses recorded. Metastatic carcinoma, in a pre-auricular lymph node or a submaxillary lymph node, from a primary focus in or about the face, mouth, nasopharynx, or larynx often must be considered. Such a diagnostic dilemma was encountered in the following cases:

T.G. #77395 This 80-year-old white male was admitted to the Eastern Maine General Hospital in December, 1951, complaining of pain in the jaw. A carcinoma of the lip (Grade I) had been previously excised at another hospital in 1948. Examination revealed a mass just anterior to the right angle of the mandible. X-ray demonstrated calcification within the soft-tissue mass and no osseous abnormality. A carcinoma of the right submaxillary salivary gland was suspected. Biopsy revealed a carcinoma thought to have originated in salivary tissue. A limited neck dissection was performed. Histological study showed a Grade III squamous carcinoma, involving the submaxillary salivary gland. Whether this was a primary tumor of the submaxillary



FIG. 3. Case no. 28252. Low power view of parotid gland. There is no capsule separating the well-differentiated adipose tissue of the tumor from the fatty stroma of the parotid gland.

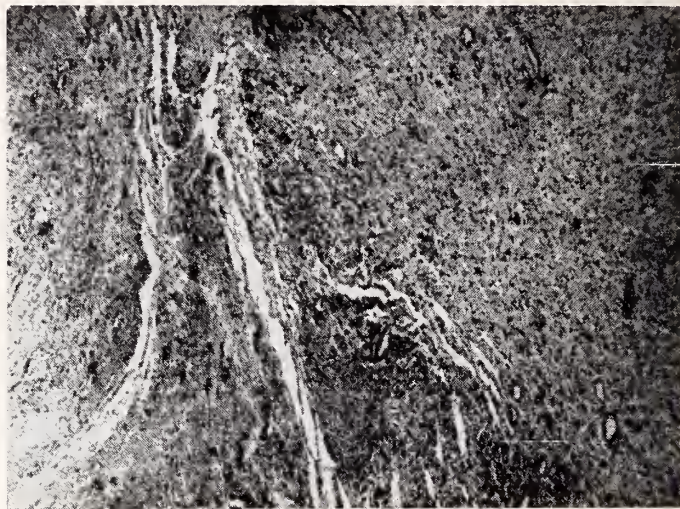


FIG. 4. Case no. 77870. Low power view of neurilemmoma composed of type B tissue. At the far left is a portion of peripheral nerve connected to the tumor. At mid-lower left is a portion of the fibrous capsule separating the nerve from the tumor on the right.

salivary gland or a metastasis from the carcinoma of the lip was not determined.

E.H. #61407 This 77-year-old white male was operated upon at the Eastern Maine General Hospital in June, 1949, for a left preauricular carcinoma of the parotid salivary gland. Five months after initial surgery, radon seeds were implanted in a tumor at the left angle of the mandible. The patient was readmitted in June, 1950. A nodule was present in the prostate and the serum acid phosphatase was elevated. X-rays showed osseous metastases. Needle-biopsy of the left ilium revealed metastatic carcinoma resembling histologically the original tumor of the parotid. Metastasis from carcinoma of the prostate could not be excluded.

V. W. W. #2385 This 47-year-old white female was admitted to the Eastern Maine General Hospital in August, 1955, complaining of stiffness of the neck. A mass was present in the right parotid region. A primary tumor of the parotid salivary gland was suspected. At operation, frozen section was inconclusive. Total parotidectomy was performed. Two weeks later, a right radical neck-dissection was done. The final pathological diagnosis was polymorphous lymphosarcoma arising in a giant follicle lymphoma. (Fig. 1 and 2) Radio-therapy was administered. On readmission, approximately one year later, enlarged inguinal nodes were present, and examination of the blood showed a leukopenia. Although this tumor probably arose in a regional lymph node, it extensively invaded the substance of the parotid gland. This is a rare type of tumor of salivary glands.

In contrast to their frequency in other locations about the head and neck, lipomata within salivary glands are uncommon. A solitary lipoma of the parotid is here recorded.

M.C. #28252 This 51-year-old white male was admitted to the Eastern Maine General Hospital in January, 1956, complaining of pain in the chest. Incidental note was made of a mass at the left angle of the jaw. This symptomless mass had been present for four years. A mixed tumor of the parotid salivary gland was suspected. A simple excision was performed. The pathological diagnosis was lipoma of the parotid salivary gland. This tumor, composed of adult adipose tissue, was continuous with the fatty stroma of the parotid gland. (Fig. 3)

Two neurilemmomas represent tumors rarely found in association with the salivary glands. Neither was suspected at operation and the origin of the second (A.A.S.) from the hypoglossal nerve was not discovered until the patient was re-examined more than a year following discharge from the hospital. The effects of injury to the hypoglossal nerve were then obvious.

L.E.F. #77870 This 41-year-old white male was admitted to the Eastern Maine General Hospital in January, 1952, complaining of a swelling at the left angle of the mandible. A tumor of the parotid salivary gland was suspected. At operation, an encapsulated tumor was found lying between the superficial lobe of the parotid and the facial nerve, to which it was adherent. It was resected without apparent injury to the facial nerve. Histological examination showed a neurilemmoma. (Fig. 4)

A.A.S. #89793 This 59-year-old white male was admitted to the Eastern Maine General Hospital in February, 1953, with a mass in the right submaxillary region. A tumor of the submaxillary salivary gland was suspected and excision was performed. At operation, it was noted that the submaxillary salivary gland overlay the tumor, which "could be shelled off." The pathological diagnosis was neurilemmoma. (Fig. 5) Examination of the patient in the Tumor Clinic one and a half years later revealed some dysphonia and atrophy of the right side of the tongue. There was no clinical evidence of residual tumor.

The infrequency and benignancy of neurilemmomas involving the facial nerve has recently been discussed by Ackerman, who cautions against radical treatment.⁽⁴⁾

By far the majority of the benign tumors of both parotid and submaxillary glands were asymptomatic except for swelling. Pain was relatively more common in the malignant tumors. It was an uncommon symptom of a benign tumor, and in no case of benign tumor was it described as severe. Only one patient presented herself with a facial nerve palsy.

F.C. #11960 This 57-year-old female was admitted to the Eastern Maine General Hospital in July, 1954, complaining of a slightly painful lump on the left side of the face and slight weakness of the left eyelids. Symptoms began about six months prior to admission. A malignant tumor of the parotid salivary gland was suspected. A simple excision of the tumor was performed. Pathological examination revealed a mucoepidermoid tumor of a high-grade of malignancy. Tumor extended to the margin of resection. Total parotidectomy was performed ten days later. The zygomatic branch of the facial nerve was sacrificed with resulting further facial palsy.

Paresis of the facial nerve in any degree is a sign highly suggestive of malignancy and a much more reliable one than duration of the tumor, size of the tumor, or location of the tumor.

Sialography was employed infrequently in this group of salivary tumors. We are unable to draw any conclusions about its value. It appears to have few adherents among those who have had a larger experience with salivary tumors. Aspiration-biopsy was not employed. Although it has been found useful at Memorial Hospital (N.Y., N.Y.),⁽²⁾ it is not a widely accepted technique, and there are impressive theoretical objections to its use. On the other hand, frozen section at the time of operation may be of considerable value, in spite of occasional difficulties in interpretation.

Including both accidental and deliberate injuries, there was a record of operative injury to the facial nerve in thirteen of our patients. In some cases, specific data in this regard are lacking. In three, the

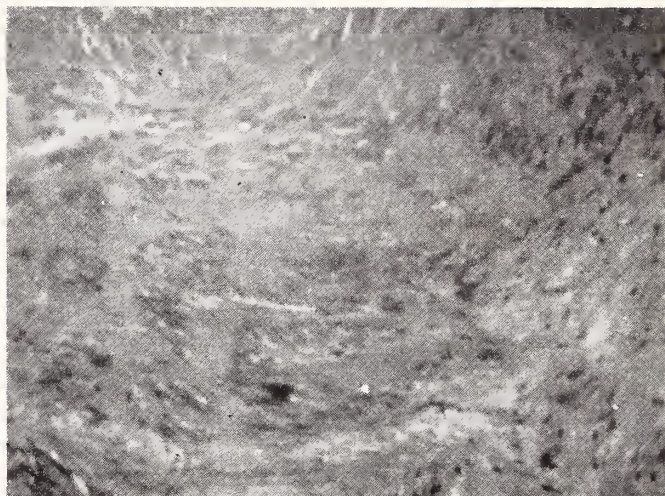


FIG. 5. Case no. 89793. High power view of neurilemmoma composed predominantly of type A tissue with sharply defined palisading of the nuclei.

palsy was transient. In the remainder, some degree of lasting facial nerve paresis was observed. Operations for recurrent mixed tumors and for cancer, understandably, are attended by a greater chance of injury and ensuing paralysis.

Lasting salivary fistula is an uncommon sequel of surgery of tumors of the salivary glands. One patient in this series had a persistent fistula (with residual mixed tumor) which continued until a more extensive resection was performed at another hospital. Another patient, aged seventy-nine, developed a pharyngo-cutaneous fistula following extensive surgery and died approximately one month later because of sepsis. There were no other operative deaths.

The follow-up on many of our patients is unknown or incomplete. Our conclusions in regard to recurrence-rate are necessarily qualified. In regard to benign mixed tumors, certain tentative conclusions are perhaps justified. Six benign mixed tumors in this series primarily treated had inadequate excisions as attested by pathological examination of the tissue removed. That is, tumor was found to extend to the margin of resection. One of these was located in the submaxillary gland; five were located in the parotid. One was a large tumor (12 x 10 x 5 cm.); the others were relatively small. One is known to have recurred one year after excision, and there is a strong suspicion that the remaining five will recur. Considering the additional fact that three benign mixed tumors were recurrent when first seen at the Eastern Maine General Hospital, we anticipate an over-all ten-year recurrence-rate of no less than twenty-five per cent. It is likely that it will be higher.

The data on recurrence-rates of mixed tumors vary, of course, from clinic to clinic. Local recurrence occurred in thirty-one per cent of the series followed for ten years, reported from the University of Pennsylvania.⁽¹⁾ At Memorial Hospital, the recurrence of primarily treated mixed tumors in five years have num-

bered approximately five per cent of the "determinate cases."⁽²⁾

Secondary operations have, understandably, been followed by a much higher recurrence-rate than primary operations.

The reasons for the high incidence of recurrence in the treatment of mixed tumors are probably several. Perhaps the chief reason is that the surgeon fails to encompass these encapsulated tumors by an adequate margin of normal salivary tissue. Enucleation, as one would shell out a lipoma or wen, is an invitation to recurrence. From a review of the operative notes and pathological specimens in this series, it appears that such a limited excision was carried out, sometimes under local anesthesia, in a high percentage of our cases.

It is of interest that the Memorial group noted an appreciable number of recurrences of Warthin's tumors.⁽²⁾

It is our feeling that operations on parotid tumors are best carried out under general anesthesia and that incisions should allow room for removal of a generous margin of normal salivary tissue about the tumor.⁽⁵⁾ Subtotal parotidectomy with preservation of the facial nerve would have sufficed for most of the benign tumors in this series, and probably for some of the malignant tumors. Total removal of the parotid is occasionally necessary for benign tumors located in the deeper portions of the parotid. It will be called for more frequently, with occasional sacrifice of some or all of the branches of the facial nerve, when one is dealing with malignant tumors.

In regard to submaxillary tumors, the high ratio of malignant to benign tumors in comparison with tumors of the parotid, illustrated by our experience, makes dissection of the submaxillary triangle the procedure of choice (minimum) for most primary tumors of the submaxillary salivary gland. Primary radical neck-dissection was performed on one patient with a mixed squamous and adenocarcinoma of the submaxillary salivary gland and clinically evident metastases to the nodes of the neck.

No rigid indications for neck-dissection were observed here. It seems reasonable to include a radical dissection of the lymph nodes of the neck in the initial surgical operation for proven cancer when there is clinical evidence of metastasis confined to the neck or when such metastasis is evident at operation. Concomitant neck-dissection may be advisable in re-operations for persistent or recurrent cancers at the primary site even in the absence of demonstrable metastasis to the lymph nodes of the neck. Lastly, subsequent dissection may be called for whenever the lymph nodes are clinically involved, provided the primary lesion is controlled and remote metastasis cannot be demonstrated.

Radiotherapy, properly, was used in this series in the treatment of some of the cancers when it was deemed impossible to excise the tumor, when excision was clearly incomplete, and, at least in one instance, in conjunction with surgery in an attempt at cure. Its value in the treatment of most cancers is palliative. It is of no value in the management of benign mixed tumors.

SUMMARY

Sixty-seven tumors of the salivary glands have been reviewed and analyzed. Eleven cases illustrating different features of these tumors are presented. Four unusual tumors of salivary glands are recorded. Errors in diagnosis and treatment are discussed. Wide excision (sub-total parotidectomy) of so-called benign mixed tumors is emphasized.

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The Journal of the Maine Medical Association

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Guest Editorials

Food-Poisoning

Although the ingestion of infected food may give rise to such diseases as typhoid fever, dysentery, cholera, septic sore throat, brucellosis, tuberculosis and trichinosis, and poisonous substances such as arsenic, non-edible mushrooms, and nicotine when ingested may give rise to serious illness or death, the term "food-poisoning" is usually restricted to cases of acute gastroenteritis due to bacterial infection of food or drink. In the outbreaks of bacterial food-poisoning which have been adequately studied, the staphylococci and the organisms of the Salmonella group are the chief offenders. As more people have become interested in the detection of the offending organism, more outbreaks of Salmonella food-poisoning have been recognized.

It would seem safe to say that most cases of food-poisoning are not adequately studied to determine the source of infection. It seems probable that most cases of food-poisoning are not carefully traced because the

possibility of bacterial infection is not seriously considered. The article by Dr. Houlihan and Mr. Carney which appears in this issue of "The Journal" is an excellent example of the information which can be accumulated following such an outbreak when the facilities of the local health department, the local physicians, the local laboratories, the state laboratory, the U. S. Public Health Service and the Regional Salmonella Center are pooled.

This outbreak occurred near the end of the school year just as many of the affected persons were about to go away to summer camp and to apply for summer jobs, some of which would include food handling. Without the recognition of this outbreak and without the subsequent recommendations of the local health advisors, many secondary cases of salmonellosis could have been anticipated.

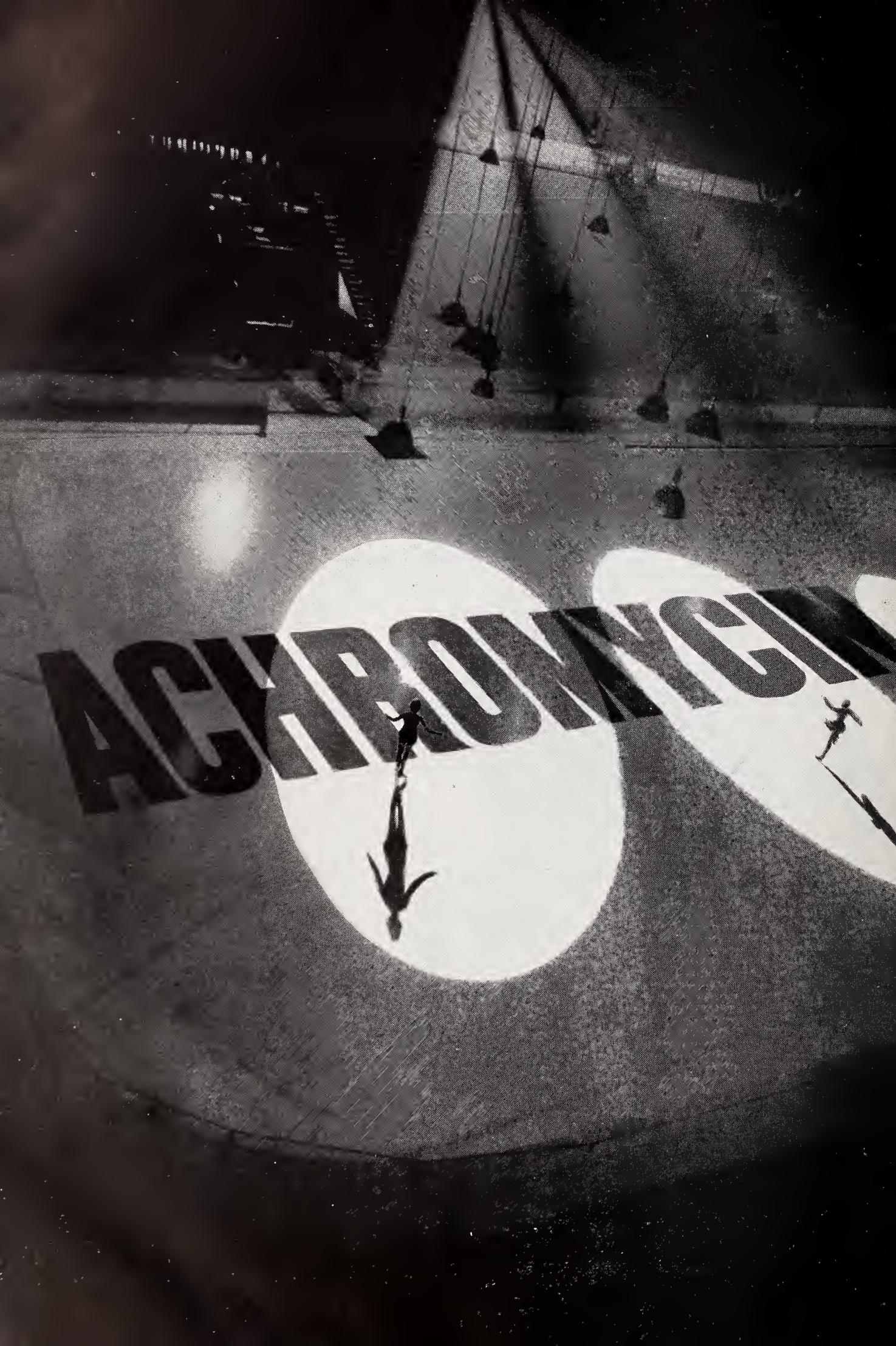
RICHARD C. WADSWORTH, M.D.

What Is A Tissue Committee?

In 1952 the newly formed Joint Commission on Accreditation of Hospitals included in the requirements for approval the creation of a new staff committee. The purpose of the committee is "to study the agreement or disagreement between pre-operative diagnosis

and reports by pathologists on tissues removed at operation." The intent of the joint commission would seem understandable, but in practice the results, more often than not, are much more obscure.

For some hospitals it was no task to meet the require-



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ments as staff organization already included provisions to accomplish the same end. A few hospitals, 5% of American and Canadian hospitals in fact, do not single out the surgical specialties but have a Medical Record Audit which reviews every hospital admission. This approach is not practicable for the larger community hospital by a staff committee. We are told, however, that within the foreseeable future this may be a service available to hospitals through mechanical tabulators.

For the majority of hospitals the tissue committee was new, and as might be expected, has met with mixed feelings from indulgent indifference to open hostility.

Impersonal critical review of another physician's work is not easy. The medical school approach is as ill-advised as that of the committee which merely goes

through the motions of an evaluation. Case reviews must be based on the entire clinical record: an incomplete, inaccurate hospital record can hardly justify tissue reports which are inconsistent with pre-operative diagnoses.

However the task is accomplished, we must accept the basic fact that we are being forced into a position of being our brother's keeper. If we do not accept this responsibility we will have lost another opportunity to serve our eclectic way of medicine.

A tissue committee is a cooperative venture. To be successful it needs: good hospital records, consultations, less self-righteousness, and the willingness to take one's turn on the committee.

NELSON P. BLACKBURN, M.D.

Across The Desk

A Matter of Responsibility

A review by the Accreditation Committee of the American Psychiatric Association of the State medical facilities at Bangor, Augusta and Pownal indicates all three are over-crowded, inadequately staffed, and lacking in up-to-date services and equipment.

Francis H. Sleeper, M.D. of Augusta, Peter W. Bowman, M.D. of Pownal and Harold A. Pooler, M.D. of Bangor are all able, sincere, honest, dedicated men who have accomplished administrative miracles. The State of Maine is fortunate to have them. But the problem of care in our mental institutions has long since outgrown the phase where any one man could by personal effort make up for the deficiencies.

A talk with Peter Bowman, M.D. at Pownal reveals that in any given year he has an 85% turnover of personnel. At present there are thirty-five vacancies. He now has eight M.D.'s and fourteen are needed. Professional services at Pownal have not kept pace and new buildings are badly needed.

In submitting the budget request for 1957/59, Dr. Bowman had this to say about Personal Services:

"It has been a known policy to employ institutional labor (patients) for performing nursing services, maintenance services, housekeeping services, to name only the more important activities.

"All patients can be and are expected to contribute constructively within their ability and in reasonable measure toward the institutional operation. When patients are being detained because they represent labor which need not be compensated, then we are leaving the basis of our civilization and the foundations of this country. It might interest the reader that a spot-check in just one of our buildings in 1955 revealed that some twenty patients worked an average of 16 hours a day,

seven days a week, cleaning and caring for severely handicapped patients, which is far in excess of what the United States citizen is expected to work (including those detained in state prisons, county jails, etc.).

"Since my appointment to Pownal State School April 15, 1953, 136 patients in this category have been discharged and 171 patients are presently gainfully employed in the community. Those 307 patients, mostly in the age group of from 25 to 50 years, previously contributed in an appreciable measure towards the operation of this institution. They have been 'replaced' by 304 new patients *all of whom* need training, treatment, and care, most of whom are in the pre-adolescent and adolescent group, many of whom are severely handicapped.

"The 97th Legislature granted 70 additional positions. These additional employees could not possibly make up for the contributions of 307 patients, many of whom worked longer hours than any paid employee. Instead of 307 helpers, we have now 304 new patients who need help, training and treatment.

"If, on the other hand, we had detained the 307 working patients for the purpose of having them work at Pownal State School, we would have:

1. Violated the basic rights of these individuals
2. Violated the declared purpose and the functions of Pownal State School, and
3. Increased the Waiting List to 445 instead of 141 as of September 7, 1956, or an equivalent of additional construction requests for added dormitory space amounting to approximately \$1,500,000 not counting resulting continued operating expenses to the taxpayer.

"In addition to these extraordinary difficulties, it must

be acknowledged and it must be emphasized again and again that this institution has never been permitted to employ a sufficient number of personnel in accordance with the standards maintained in the other two mental institutions in this state, let alone sufficient personnel to meet the minimum standards of the American Psychiatric Association."

Maine M.D.'s on the National Scene

The Rural Health Study Conference held at Purdue University was in the words of our representative Harry L. Harper, M.D. of South Paris "a very pleasant and interesting experience." Dr. Harper, Chairman of the Rural Health Committee of the Maine Medical Association, was one of the thirty-two State representatives at the Purdue Conference. He has come back with some constructive suggestions for his committee.

The Rural Health Committee "shall study the conditions of health, of medical care, of hospital service, of public health service and all other germane subjects in rural areas." The scope of this Committee's potential is pointed up by the fact that 48.3% of Maine's people live in rural areas.

Sharp Contrast Shown in Rural, Urban Hospital Facilities

A recent Public Health Survey reveals that rural communities proportionally have less than half the number of hospital beds per 1,000 population compared to urban counties.

The nation-wide report on geographic distribution of nursing homes and general hospitals providing skilled nursing service includes 564,826 beds in 5,200 general hospitals and 171,106 beds in 6,531 skilled nursing homes.

The ratios: approximately 4.1 general hospital beds

97% of all psychiatric cases which are hospitalized are in State sponsored hospitals. This means that private physicians are referring to State institutions 97% of their psychiatric cases. This fact alone makes us partners in the problem. The responsibility for "doing something" is ours — it can be delegated to no other segment of our society.

Elton R. Blaisdell, M.D. of Portland has been re-appointed to the Board of Governors of the American Diabetes Association in recognition of his work in the field of Diabetes in the State of Maine.

H. Draper Warren, M.D. of Caribou negotiated contract and fee schedules with the Defense Department in a two-day session in Washington, D. C., on November 15 and 16 for the Federal Government's new Medicare Program (Care for the Dependents of Members of the Armed Forces).

John R. Lincoln, M.D. of Portland, director of anesthesiology at the Maine Medical Center, has been elected a member of the Board of Governors of the American College of Anesthesiologists.

and 1.3 skilled nursing home beds per 1,000 population in metropolitan counties, contrasted with 1.8 hospital beds and .4 nursing home beds per 1,000 population in isolated rural counties.

Patterns of the study, which are discussed by Jerry Solon and Anna Mae Baney in the October *Public Health Reports*, show that as the per capita income and the number of doctors and nurses increase, the supply of beds increases. The number of people 65 or older influences the number of beds in skilled nursing homes.

Medicare

Your State Society has completed negotiations with the Department of Defense on a two-party contract (Maine Medical Association, and Department of Defense) to provide medical care for dependents (wife and children) of members of the Armed Forces by civilian physicians in civilian facilities.

The program is one of "Full Service Coverage." A schedule of maximum fees has been completed and copies will be distributed to every physician in the State by Blue Shield. In unusual cases the physician may be written report to the fiscal agent receive addi-

tional compensation from the Federal Government, but not directly from the patient.

In cases of emergency — office, outpatient or home care — the first \$15.00 of the total bill is paid by the patient and the remainder by the Government through the fiscal agent.

The patient is required to furnish positive evidence of eligibility for care under this program. For the most part "in-laws" are not covered nor are chronic diseases and certain elective and dental procedures.

Labeling Rules Issued for Cobalt Compounds

Food and Drug Administration has promulgated rules governing use of hemopoietic drugs containing cobalt salts. Action has been taken because, to quote FDA, "the present state of scientific knowledge concerning the use of cobalt salts as hemopoietic agents is limited,

in that the mechanism of their action is not known and the possible deleterious effects of prolonged administration have not been fully determined."

"By prescription only" is the new rule for preparations containing a per dosage unit exceeding 10 milli-

grams of cobalt chloride, or more than 2.5 milligrams of cobalt in any form of salts. Labeling shall caution and guide physicians as to toxicity and possible adverse effects and as to indications for simultaneous administration of iron salts for maximum effectiveness.

Where per dosage unit is less than 10 milligrams of cobalt chloride, or less than 2.5 milligrams of cobalt

in any form of salts of cobalt, over-counter sale will be permitted for treatment of simple iron-deficiency anemia only, provided that certain labeling conditions are met. These deal with limitation of intake per 24-hour period, avoidance of prolonged use unless directed by a physician and denial of administration to children under age 12 except on authorization by the physician.

A Good Move

At least one of the major insurance companies has taken a practical step in the right direction.

Under accident and sickness, hospital, surgical, medical and major medical expense policies, claim costs are subject to human relationships which cannot be spelled out in black and white, as well as to the terms of the policy. Intensive efforts to exercise claim cost control in this important area are being made by John Hancock

Mutual Life Insurance Company of Boston through periodic visits to individual doctors and hospitals to keep them aware of insurance problems and promote their interest in mutually sound solutions. John Hancock has set up a separate unit in its Group Department operation under the direction of Harold J. Waters, Research Consultant, Group Health Insurance, to work exclusively with doctors and hospitals.

Habit-forming Qualities of Meprobamate

A Seattle physician has warned that the tranquilizing drug meprobamate (Miltown® or Equanil®), can be habit-forming in a small percentage of cases.

Dr. Frederick Lemere gave his warning because of the unprecedented demand for the drug, because of talk of selling meprobamate over the counter without a prescription, and because it has been advertised as non-habit forming.

He has seen a few individuals show the standard symptoms of addiction, including a psychological craving for the drug based on its pleasant effects, a build-up or tolerance requiring increasingly larger doses to produce the same effect, and withdrawal symptoms when the drug is suddenly discontinued.

However, meprobamate is still the "most helpful and least harmful of all drugs used for the relief of nervous and emotional tension," but its habit-forming qualities for some persons indicates the necessity for careful supervision of its use. Dr. Lemere said in the August Archives of Neurology and Psychiatry, published by the American Medical Association.

Dr. Lemere noted withdrawal symptoms among some

of his patients. These included feelings of "nervousness," "the jitters," or "let down" when the patients missed their usual doses of meprobamate. One patient experienced the first convulsion of his life 10 hours after discontinuing the medicine. While this may be coincidence, the pattern was similar to the convulsions seen after sudden withdrawal from alcohol or barbiturates.

"A psychological dependency on the drug is also undoubtedly created in certain patients," he said.

Many feel so much less tense when taking the drug that there may be an exaggerated feeling of well-being. In most cases this does not appear to be harmful, but in a few patients it may lead to overdosage on the basis that "if one pill helps, three will help three times as much," he said.

Thirteen of more than 600 patients had to discontinue the drug because of excessive self-medication. Several patients under the influence of six or more tablets a day showed all the signs of intoxication, including an exaggerated sense of well-being, confused speech and generalized incoordination.

Roundup of 450 Doctors For February Draft Started

Dept. of Defense has informally notified Selective Service headquarters that it will need 450 physicians for early spring replacements. Transmittal of the official requisition is expected this week. Meantime, SS already has sent word to all state directors directing them to take inventory of special registrants in 1-A (and 1-A-O) who are physically qualified, acceptable and available for military service. The stock-taking

will cover *all* Priority I's and II's, and all III's born on or after Jan. 1, 1919.

State surveys will exclude registered physicians whom the doctor-draft law exempts from compulsory service: Those who will be age 46 or older on Feb. 27, 1957; those who will be 35 or older on Feb. 27, 1957, and who have applied for commissions in the past but who have been rejected solely for physical disqualification.



DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Budget Requests for Next Biennium Presented to Governor Muskie and Legislative Advisory Committee*

The appropriations suggested in this statement are based on the continuation of existing programs at approximately their present levels of service, extent or liberality. This, of course, does not mean that we will not make internal changes in emphasis or priority if the need arises. We recognize that in some instances the levels at which we now operate are minimal ones that seem to represent compromises of opinion, but even so there is a process of gradual evolution as we can see changes in public support. Major changes in our programs can usually be accomplished only with additional staff and money, for none of our programs have as yet reached the point where they can be abandoned or radically curtailed to provide resources for other activities. In addition, such changes will also require substantial changes in policy, concepts, and statute. We are inclined to approach such changes on a step by step basis. In this way, we can plan, test, measure, and forecast more accurately both the significance and permanence of the needs to be met and the resources which we shall require.

As examples of evolutionary program expansions or administrative liberalizations accomplished in the current biennium without specific appropriation provisions, the continuation of which are provided for in this request, the following are cited:

- (1) The maximum grants in Old Age Assistance, Aid to the Blind, and Aid to the Disabled have been increased from \$55 to \$60.
- (2) An increase in average grants approximately as follows:

Old Age Assistance (including hospitalization)	\$50-\$54
Aid to the Disabled	\$58-\$62
Aid to the Blind	\$54-\$58
- (3) \$2 increase for adult and each child in Aid to Dependent Children with increase in the maximum grant from \$207 to \$225.
- (4) Increase in average grant from \$84 to \$93.

- (5) Removal of adjusted requirements limitation in Aid to Dependent Children.
- (6) Inclusion of both spouses in the hospitalization pool.
- (7) Liberalizations in both income and assets formulae.
- (8) More realistic disability definition in Aid to Dependent Children.
- (9) New budgets will provide for carrying the complete Aid to the Disabled caseload with a more realistic disability definition than initially throughout the biennium.
- (10) Review of relative's ability to support biennially rather than annually and simplified budgeting procedure, both of which result in some liberalization toward the client although they were adopted primarily because of staff shortages.
- (11) Creation and staffing of several new service positions, and the filling of several important and long-standing vacancies in both health and welfare, particularly in the tuberculosis program.
- (12) Increased activity in securing contributions from absent fathers on court orders without regard to budget deficits in Aid to Dependent Children resulting in some instances in increased income for the family.
- (13) One major improvement that we have considered, and could probably finance the remainder of this year, but have deferred adopting, pending assurance for continuation, is in the board rate which we pay for the care of committed children in foster homes. Our present rate is \$30 per month and on this rate our foster parents are doing a real public service, but it is becoming increasingly difficult for us to secure foster care at this rate. We would like to increase the rate to \$10 a week. Providing for payment at this rate is the reason for the largest single increase in this budget request.
- (14) Increased distribution of surplus foods.

*This article is abstracted from the statement regarding the Department's budget requests for the next biennium, as presented on October 16 of this year by the Commissioner to Governor Edmund S. Muskie and the Legislative Advisory Committee on the Budget.

In our Public Assistance program, which has four categories, namely, Old Age Assistance, Aid to the Blind, Aid to Dependent Children and Aid to the Disabled, the major expenditures are in the two categories with

which members of the medical profession are undoubtedly the most familiar at the present time. (They will become increasingly associated with the Aid to the Disabled program as it increases in scope.)

Over a ten-year period, Maine has joined the national trend in Old Age Assistance, in that the caseload has decreased but the average grant per person has steadily increased. For example, in 1946, the caseload was 15,010 with an average monthly grant of \$30.83 as compared to 1956, when the caseload dropped to 11,806 but the average grant had increased to \$46.20 (plus \$4.00 payment into the hospitalization pool for OAA recipients.)

The projection for each year of the next biennium, subject to the qualifications previously referred to, is that the caseload will be 11,800 with the average grant approximately \$50 plus the same amount of \$4.00 for the hospital pool payment.

The Aid to Dependent Children program, on the contrary, shows marked increases in both the caseload and the amount of average grants over a similar period of time. For example, in 1946, there were 1,582 cases (representing 4,478 children) and the average grant per case was \$71.91. The caseload climbed steadily for the ten-year period and in 1956, there are 4,487 cases (representing a total of 11,284 children) with an average grant per case of \$81.22 plus a \$3.00 monthly pool payment per case.

The estimated ADC caseload in the next biennium is 4,500 cases with an estimated average monthly grant per case of approximately \$90.00 plus the \$3.00 pool payment.

The program of Aid to the Blind (this is the assistance program of grants-in-aid to needy blind persons, not to be confused with the Department's Division of Services to the Blind, which is a rehabilitation program in a separate division) shows a trend similar to that summarized in the Old Age Assistance category.

The relatively new program of Aid to the Disabled which was outlined in detail in previous issues of the Journal will show the largest percentage of increase in caseload. This was expected as more cases became medically eligible. The first caseload figure of 103 as of June 30, 1955 has already increased to 629 at present, and the projection calls for 1200 cases in the next biennium. The average grant at the beginning was \$48.70 and is now \$52.39 plus a \$6.00 monthly hospitalization pool payment. The estimated average grant in the next biennium is \$56.00 per month, plus the same pool payment.

In any discussion of the next major program in our budget, that of service and care for committed or neglected children, it should be recognized that once children are committed to the custody of the department by the courts, because of gross negligence on the part of the parents, we are completely responsible for all care of such children. The current caseload is approximately

2,100 children for whom all necessities of food, clothing, medical care and shelter must be provided.

The caseload which has decreased from 2,565 in 1940 to approximately 2,100 at the present time is the basis for a definite sense of accomplishment, when the inevitable increase in the number of broken homes resulting from war-time disturbances is considered.

In some sense there is a desired reciprocal relationship between this program of care for committed children and Aid to Dependent Children, and we hope that as the Aid to Dependent Children program expanded during the past ten years it exerted some favorable pressure. However, if we accept the increased Aid to Dependent Children caseload as a measure of social stresses, then I should simply like to point out that during some turbulent years we have had a net decrease in children in custody gained by hard, thoughtful work on the part of many people.

Our general relief program, operating as it does to provide reimbursement to towns for aid granted to non-settled cases, is in some respects an emergency program, the demands upon which are likely to be unpredictable, and to a large extent beyond our control. The item of general relief medical care is an increasingly large one, approximately \$100,000 a year. Incidentally, the department as a whole purchases \$1,200,000 in medical services per year. We cannot anticipate any changes in our general relief caseload. If there are small decreases, they may be offset by increased costs of the goods and services, particularly medical care, we must purchase. We estimate that we will reimburse towns for 1,000 cases at about \$62 per case. We have about 150 direct cases at \$65 per month and 70 children at \$45 per month.

We are suggesting an increase in appropriations for Services for the Blind, in which program our expenditures are in excess of appropriations. In brief, we have 3,500 cases for medical care, an increase of 1,500 cases since July, 1955. It is in this item that we have had our greatest increased costs, and last year we had to defer care during the months of May and June. We have 100 cases for rehabilitation work and 10 cases at Perkins Institute. Tuition at Perkins increases \$500.00 in September, 1957.

In health programs our estimate exceeds that of the last biennium by about \$250,000. This is to provide field clerical staff to relieve nurses of office duties, two specialists to be assigned to the State Civil Defense staff, specialists on the central administrative tuberculosis staff in social work, rehabilitation, nutrition, institutional management, and additional funds to be used in the crippled children program because of increased medical costs.

The program of alcoholic rehabilitation has expanded rapidly, has been widely accepted and has reached the limit of development under present appropriations. It is anticipated that additional funds will permit a pro-

Continued on page 402

FOR POSITIVE DIURESIS

ROLICTON*

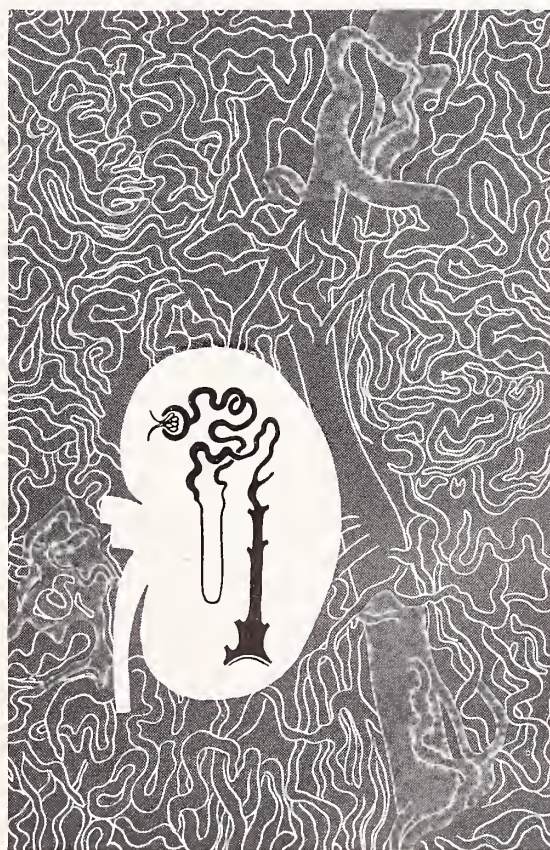
- oral b.i.d. dosage
- continuous control of edema

The new, highly effective oral diuretic, Rolicton, greatly simplifies the task of maintaining an edema-free state in the patient with congestive heart failure. Rolicton meets the criteria for a dependable diuretic: continuous effectiveness, oral administration and clinical safety.

In extensive clinical studies the diuretic response clearly indicates that a majority of patients can be kept edema-free with Rolicton. In these investigations it was noted that side reactions were uncommon. When they did occur they were usually mild.

In most edematous patients Rolicton may be employed as the sole diuretic agent. When used adjunctively in severe cases, Rolicton is also valuable in eliminating the "peaks and valleys" associated with the parenteral administration of mercurial diuretics.

One tablet of Rolicton b.i.d., after meals, is usually adequate for maintenance therapy after the first day's dosage of four tablets. Some patients respond well to one tablet daily. G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.



*Trademark of G. D. Searle & Co.

SEARLE

County Society Notes

AROOSTOOK

November 8, 1956

The fall meeting of the Aroostook County Medical Society was held at the Plymouth Hotel in Fort Fairfield on November 8th. Following a social hour and a fine steak dinner, the meeting was called to order by President Stephen Brown, who gave a word of welcome to members and guests present.

Members present: Drs. S. S. Brown, Armand Albert, T. G. Harvey, J. D. Denison, C. I. Swett, G. F. Mock, C. F. Hogan, F. C. Vogell, G. J. Harrison, G. H. Donahue, M. S. Smith, L. M. White, M. R. Aungst, Philip Pines, H. D. Warren, H. C. Kimball, H. M. Helfrich, Jr., N. R. Helfrich, R. M. Gabrielson, R. A. Graves, R. H. Kennedy, S. W. Boone and F. J. Faucher.

Guests present: Dr. and Mrs. Ralph A. Goodwin of Auburn; Dr. and Mrs. Wilson H. McWethy of Augusta; Dr. Marguerite Dunham of Caribou; Mr. Herbert Snowman of Presque Isle; Captain Oyer, MC, LAFB and Mrs. Oyer; Colonel Marchbank, MC, LAFB and Mrs. Marchbank; Dr. and Mrs. Eli Etscovitz of Caribou; Dr. and Mrs. Samuel Rideout of Fort Fairfield; Mmes. Brown, Albert, Harvey, Denison, Swett, Mock, Hogan, Vogell, Harrison, Donahue, White, Aungst, Warren, Kimball, Gabrielson, Graves, Kennedy, Boone and Faucher.

The revised fee schedule for Aroostook County was presented to each member present, and it was voted, That the Secretary include notice of the change in fee schedule in the news release to the following newspapers: Bangor Daily News, Houlton Pioneer-Times, Presque Isle Star-Herald, Fort Fairfield Review, Caribou Aroostook Republican and the Limestone Leader.

Colonel Marchbank spoke briefly on the need for civilian doctors and base doctors to cooperate and work together, particularly in the matter of immediately reporting contagious and infectious diseases. He also stressed immediate consultations on all accident cases of base personnel outside the base.

Dr. Armand Albert of Van Buren, President of the Maine Medical Association, celebrated his 60th birthday and was given a rousing ovation from all present.

Dr. Ralph Goodwin of Auburn, a past president of the Maine Medical Association, gave a word of best wishes and a reminder of the clinical session to be held in Lewiston, November 18-20.

Dr. Harry Helfrich spoke relative to the recommendation of the M.M.A. that each county society have a Public Relations Committee. It was voted, That the president appoint a Public Relations Committee composed of three members, one from each of the three sections of the County.

It was voted that a gift be sent from the County Society to past president, Dr. Leonide Toussaint who is a patient at the Cary Memorial Hospital.

It was voted, that the president appoint a Medical Advisory Committee to the Aroostook County Chapter, National Foundation for Infantile Paralysis, composed of six doctors, two from each of the three sections of the County, to help with this work in the county.

The following physicians were elected to membership in the society: Marguerite Dunham, M.D., Caribou; Eli A. Etscovitz, M.D., Caribou and Samuel Rideout, M.D., Fort Fairfield.

Wilson H. McWethy, M.D. of Augusta, Medical Consultant for the Vocational Rehabilitation Division of the State Department of Education, was the speaker of the evening. Dr. McWethy spoke in a very forceful and clear manner on the way in which rehabilitation works and in great detail on the

many problems associated with its proper function, especially as it effects the cooperating doctors. He introduced Mr. Herbert Snowman, councilor for the program for Aroostook County, with headquarters in Presque Isle. Dr. McWethy stressed the need for complete physicals on every contact with the patient in order that good history would be available for later rehabilitation to a useful life. Rehabilitation is becoming a major problem in the economy of the state. This is particularly true when it comes to heart disease. It is hoped that the county will set up a Rehabilitation Center for proper processing of such cases. This would depend upon the cooperation of all local doctors.

It was voted that the president appoint a Committee of Investigation on County Rehabilitation, to be composed of six members, two from each of the three sections of the county.

A letter from a prominent ophthalmologist in the southern part of the state was read by the secretary. This letter warns doctors of the danger of instilling cycloplegic drops because of the possibility of incipient glaucoma and also warns against the practice of administering these drops for optometrists.

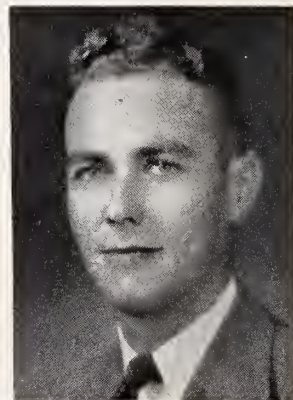
It was voted that the society accept the invitation of Dr. Armand Albert to hold a mid-winter meeting in Van Buren.

CLYDE I. SWETT, M.D.
Secretary

CUMBERLAND

DR. LINCOLN HONORED

John R. Lincoln, M.D. of Cumberland County was elected a member of the Board of Governors of the American College of Anesthesiologists at its annual meeting in Kansas City. He will serve a six-year term. Dr. Lincoln was named an associate member of the Board of Governors two years ago. The College is a certifying body which, on the basis of examinations, awards fellowships in the College to competent anesthesiologists.



FRANKLIN

October 8, 1956

Thirteen members attended the Franklin County Medical staff meeting held at the Franklin County Memorial Hospital in Farmington.

The session featured a panel discussion on gall bladder disease. Medical aspects of this disease were presented by Hays G. Bowne, M.D., of Farmington, and surgical aspects by Dexter Elsemore, M. D., of Dixfield and Wallace H. Duffy, M.D., of Farmington.

Following the meeting, the members attended a social hour at the home of Dr. and Mrs. Hays G. Bowne. Also present were members of the County Society Auxiliary.

Continued on page 397

Necrology

J. Albert Lethiecq, M.D.

1865-1956

J. Albert Lethiecq, M.D., 91, one of Maine's oldest practicing physicians, died in Brewer on October 28, 1956.

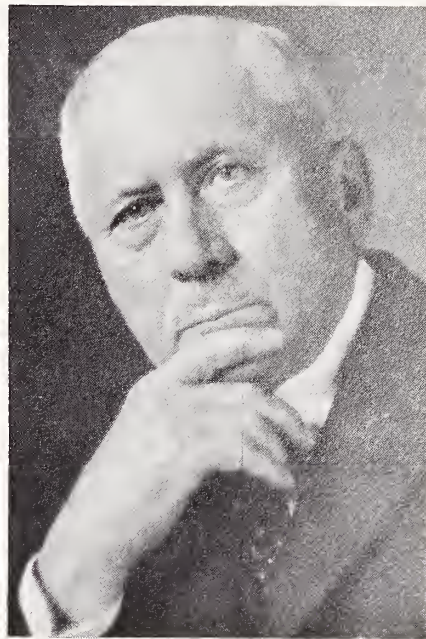
Dr. Lethiecq, who completed over sixty years in the practice of medicine in 1954, was a member of the American Medical Association and an Honorary Member of the Maine Medical Association. He had received the Maine Association's 50-year medal and 55 and 60-year lapel pins. He was also an Honorary Member and Past President of the Penobscot County Medical Association.

He was born October 16, 1865 in Beaucancourt, Quebec the son of Gustavus and Eleanore Lemay Lethiecq. He graduated from Laval University in Montreal and from Jefferson Medical College in 1894. Dr. Lethiecq did post-graduate work at Jefferson and Philadelphia Polyclinic. He was a frequent visitor at the Clinics in the large cities of the country.

Dr. Lethiecq was a member of the Medical Staff of the Eastern Maine General Hospital and at the time of his death he was on the Consultant Staff of that Hospital. He was visiting physician to the Eastern Corporation for many years. He was a member of the Health Department of the City of Brewer for many years and also served on the School Board.

His hobby for most of his life was horticulture.

He is survived by three daughters, Miss Avis S. Lethiecq of Brewer, Mrs. Edward Babcock of Bangor, and Mrs. Martyn L. Hall of Ellsworth Falls, several grandchildren, and one great-grandchild.



LINCOLN-SAGADAHOC

BATH DOCTOR RETIRES

Harry F. Morin, M.D., who has practiced in Bath for forty-seven years, retired on November 21. President of the medical staff at Memorial Hospital for the past nine years and Fellow of the American College of Surgeons, Dr. Morin is a 1904 graduate of the College of Medicine of Boston University. He was honored with an informal testimonial by the Staff at Bath Memorial Hospital.

WALDO

November 9, 1956

Dr. and Mrs. Norman E. Cobb entertained the Waldo County Medical Society, Friday evening, November 9th, at their new home in Bayside.

Speaker of the evening was D. W. Slingerland, M.D., of the Boston Veterans Hospital. His topic, "Menstrual Disorders," was excellently presented, as evidenced by the interest shown in the question and answer period.

R. L. TORREY, M.D.
Secretary

WASHINGTON

October 25, 1956

A regular meeting of the Washington County Medical Society was held at 6 p.m. at the Congregational Vestry, East Machias

with 23 members and guests present. An excellent turkey dinner was served by members of the Ladies' Union Society.

A business meeting was held with the President, Edwin B. Johnston, M.D., of St. Stephen, N. B., presiding. He announced that Samuel R. Webber, M.D., of Calais was President-elect of the New England Surgical Society. Oscar F. Larson, M.D., of Machias reported on the last meeting of the Maine Medical Association. Dr. Johnston introduced Armand Albert, M.D., of Van Buren, President of the Maine Medical Association. Dr. Albert spoke on a loan fund to be established for the benefit of medical students.

The speaker of the evening was Richard C. Wadsworth, M.D., of Bangor, Pathologist at the Eastern Maine General Hospital. Dr. Wadsworth spoke on his duties as consultant to the medical examiners. He illustrated his talk with colored photographs. These photographs emphasized the importance of close attention to detail necessary in any case of unexplained death. They brought out very vividly the forces of gravity operating upon the blood in the body after death, and he was able to show in some cases convincing proof that the body had been moved after death. He emphasized the importance of viewing the exact scene of the accident which might determine the presence of negligence. Dr. Wadsworth mentioned and was able to show by his slides that in quite a percentage of deaths, other than auto accidents, alcohol was partly responsible.

Continued on page 400

Tuberculosis Abstracts*

Issued By The National Tuberculosis Association

A Note On The Association Of Emphysema, Peptic Ulcer And Smoking

By Francis C. Lowell, M.D., William Franklin, M. D., Alan L. Michelson, M.D., and Irving W. Schiller, M.D., The New England Journal of Medicine, January 19, 1956

This discussion suggests a relation between emphysema, peptic ulcer and smoking and tentatively places a heavy responsibility on the last in the pathogenesis of the first two. In the course of the past eighteen months, 25 patients with chronic obstructive pulmonary emphysema were studied. These patients were unselected and came under observation only because of advanced pulmonary disability. A review of the histories in this group revealed that all had been heavy smokers, and with the exception of one male patient who stated that he had smoked cigars exclusively, all had smoked cigarettes for twenty years or more. Some had stopped smoking when respiratory symptoms developed. A history of smoking has been consistently found in patients with cough syncope, a not unusual concomitant of pulmonary emphysema.

The group comprised 19 men and 6 women, ranging in age from fifty-one to eighty-one years. All complained of dyspnea of three or more years' standing, and, except for 3 male patients with cardiac disease apparently secondary to their pulmonary lesion, none had any recognizable cause for their respiratory symptoms other than the presence of obstructive change in the airway. All had some reduction in the vital capacity and marked slowing of expiration as demonstrated by the expiogram, less than 50 per cent of the vital capacity being exhaled in the first second. The residual volume was 50 per cent or more of the total capacity in all 11 patients in whom this measurement was made. Three patients, all males, in this group had bronchogenic carcinoma. Eighteen patients were treated intensively with steroids, and although symptomatic improvement was clearly induced in 16, none had more than slight or, at best, moderate improvement in lung function as judged by the expiogram or by more elaborate tests of pulmonary function.

Unfortunately, the criteria by which emphysema, as the term is used here, is to be distinguished from bronchial asthma, have never been clearly established. The distinction can be made. Asthma usually begins early in life, but irrespective of the age at onset, periods of severe dyspnea—associated with a reduction in maximal expiratory rate—tend to alternate with periods of normal or close to normal exercise tolerance and pulmonary function can be restored with intensive steroid therapy. In the progressive and often ultimately fatal form of obstructive pulmonary disease referred to here as emphysema, there is usually no dyspnea or other evidence of functional impairment of the lung before the age of forty, there is a gradual loss of pulmonary reserve and once respiratory symptoms have become manifest, there are no complete remissions. Finally, the maximal expiratory rate is markedly reduced, an abnormality that can be at best only partially

removed by intensive treatment with bronchodilator drugs or steroids, or both. All patients in the group of 25 mentioned above fulfilled these criteria.

Certain features of emphysema can be explained by the assumption that the disease is an inflammatory lesion of the bronchial tree caused by the inhalation of minute irritating particles. The emphysematous patient with dyspnea and obvious obstruction to expiration often has a remarkably silent chest on auscultation. In contrast, the asthmatic patient with dyspnea usually wheezes audibly. In asthma, obstruction may be chiefly in the relatively large noise-producing airways, whereas in emphysema this may be restricted to the terminal portion of the airway. Here, the small caliber of the airway and the low velocity of flow minimize turbulence, the cause of wheezes and rhonchi. Such a distribution of the lesion in the two conditions might arise from a difference in the size of the particles inhaled, those recognized as causes of asthma (pollens, mold spores and dusts) being relatively large and tending therefore to settle out in the larger airways, and those that we believe to cause emphysema (smoke and possible fumes and certain industrial dusts presumably acting as irritants) being minute and therefore capable of reaching the periphery of the lung.

We were further struck by the occurrence of peptic ulcer in 6 of the 25 patients with emphysema referred to above, a prevalence of 24 per cent. That this was not mere chance is suggested by other published reports emphasizing such a relation.

An association appears to exist, therefore, between cigarette smoking and emphysema on the one hand and emphysema and peptic ulcer on the other. We believe that the presence of cigarette smoking in this association is best explained as a cause in emphysema and an aggravating circumstance and possibly a cause in ulcer. Such an assumption explains the following: the finding that all of a group of 25 patients with emphysema were cigarette smokers of long standing; the reported description of the lesion in emphysema as inflammation and obstruction of the peripheral and narrow portion of the airway; the widely held opinion that smoking aggravates peptic ulcer; the frequency of peptic ulcer in patients with emphysema; and the occurrence, in the group of 25 patients with emphysema, of 3 cases of bronchogenic carcinoma, a disease for which an association with cigarette smoking appears to have been established.

The quantity and manner of smoking (inhalation) or both may be influenced significantly by the personality of the subject, which is here regarded as having a direct bearing, therefore, on the development of both emphysema and peptic ulcer. A simple schema representing the interrelations herein postulated is as follows: "Tension" is loosely used here to represent a constellation of emotional states and habits ordinarily attributed to those who are anxious, frustrated, ambitious and so forth and who, perhaps because of added factors may be led or pushed to smoke. Relations other than those indicated

*Vol. XXIX, December, 1956, No. 12.

(The printing of Tuberculosis Abstracts is made possible by the cooperation of your local tuberculosis and health association.)

Special Committes

The following Special Committees for 1956-57 have been appointed by the President, Armand Albert, M.D. of Van Buren.

AMY W. PINKHAM FUND COMMITTEE

Norman H. Nickerson, M.D., Greenville, Chairman
Virginia C. Hamilton, M.D., 900 Washington Street, Bath
Albert M. Carde, M.D., 33 Elm St., Milo
Thomas A. Foster, M.D., 131 State St., Portland
Ella Langer, M.D., State House, Augusta
Philip G. Good, M.D., 38 Deering St., Portland

DIABETES COMMITTEE

Elton R. Blaisdell, M.D., 12 Deering St., Portland, Chairman
Paul R. Chevalier, M.D., 355 Pine St., Lewiston
Lawrence M. Cutler, M.D., 31 Grove St., Bangor
Paul J. LaFlamme, M.D., 78 Pine St., Lewiston
Robert B. Somerville, M.D., 473 Main St., Presque Isle
Wilson H. McWethy, M.D., 31 Western Ave., Augusta

COMMITTEE ON MATERNAL & CHILD WELFARE

Frank W. Kibbe, M.D., 22 White St., Rockland, Chairman
Alice A. S. Whittier, M.D., 143 Neal St., Portland
Clair S. Bauman, M.D., 159 Silver St., Waterville
Virginia C. Hamilton, M.D., 900 Washington St., Bath
Norman B. Murphy, M.D., 31 Western Ave., Augusta
Edwin Kay, M.D., 31 Frye St., Lewiston
I. Mead Hayward, M.D., 18 Sweden St., Caribou

STATE COMMITTEE NATIONAL EDUCATION CAMPAIGN

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Continued on page 400



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Continued from page 397

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Announcements

Maine Medical Center Portland, Maine

Course in Clinical Electrocardiography*

Assembly Room 7:30 p.m. Each Wednesday

January 2, 1957 — The History of Graphic Methods, Eugene
H. Drake, M.D.

January 9, 1957 — Theory of the Electrocardiogram, Harold
L. Osher, M.D.

January 16, 1957 — The Normal Electrocardiogram, Ralf
Martin, M.D.

January 23, 1957 — Ventricular Hypertrophy and Conduction
Disturbances, Ralf Martin, M.D.

January 30, 1957 — The Electrocardiogram in Myocardial In-
jury, Ischemia, Angina; Exercise Tests, Edward A. Greco,
M.D.

- February 6, 1957 -- The Electrocardiogram in Myocardial Infarction, Harold L. Osher, M.D.
- February 13, 1957 — The Electrocardiogram in Hypertension, Pericarditis, Congenital Heart Disease, Cor Pulmonale, Eugene H. Drake, M.D.
- February 20, 1957 — Electrocardiographic Effects of Drugs, Electrolyte Imbalance, Metabolic Diseases, Ralf Martin, M.D.
- February 27, 1957 — Arrhythmias, Eugene H. Drake, M.D.
- March 6, 1957 — The Electrocardiogram in Differential Diagnosis, Harold L. Osher, M.D.

*Approved for credit by the American Academy of General Practice under category No. 1 as set up by the Committee on Education.

All physicians are cordially invited to attend.

Fluid and Electrolyte Disturbances
Post-Graduate Course
Tufts University School of Medicine
Directed by William B. Schwartz, M.D.
January 10-12, 1957

This two and one-half day course will be held at the New England Center Hospital and will cover the physiological background for the understanding of fluid, electrolyte and acid-base regulation and the application of these concepts to common problems in clinical medicine. The tuition fee is \$20 and the registration fee is \$5. Members of the Maine Medical Association may apply to the Bingham Associates Fund for a fellowship to cover these fees.

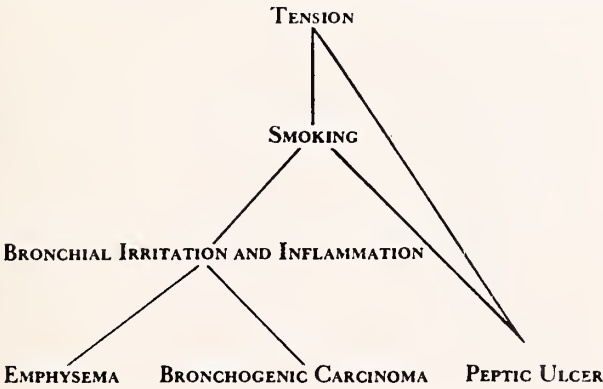
Address all communications to: Post-graduate Secretary, Tufts University School of Medicine, 171 Harrison Avenue, Boston, Massachusetts.

TB ABSTRACTS

Continued from page 398

may also exist—for example, anxiety produced by respiratory difficulty causing or aggravating ulcer.

It is therefore suggested that emphysema and perhaps peptic ulcer as well should be assigned a place along with carcinoma



of the lung in the tobacco controversy. Intensive study of this question appears to be warranted since emphysema as defined above is a disease more common than carcinoma of the lung and has a prognosis almost as gloomy.

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DEPARTMENT OF HEALTH AND WELFARE

Continued from page 394

gram of direct service of counseling, education, and some clinic care. This request will probably be an appropriation plateau for some time to come.

The program of poliomyelitis immunization has used something over 200,000 cc's of vaccine at a cost of \$161,000 Federal funds and about \$10,000 State money. The program represented a tremendous concentration of time and energy diverted to some extent from other activities. The program in the next biennium will have leveled off so we are only planning to use about \$10,-000 per year for vaccine. Federal funds terminate this year. Through all resources about 62% of children 0-19 have now had two vaccine injections, and about 100,000 of these have received their injections through clinics in which we had some responsibility.

The tuberculosis sanatoria are expected to operate this next biennium at or near their present level of occupancy, and the last appropriation by about \$150,000, accounted for by increasing cost of items purchased, a plan of more adequate staffing for Western Maine Sanatorium particularly and a central laboratory. The request also includes \$31,000 for out-patient clinic services and the provision of drugs to out-patients unable to provide their own. The request for capital improvements has been prepared by the Bureau of Public Improvements. Their recommendations are essential and minimum. A new building will probably be needed as a part of any plan for capital construction designed to make Fairfield the relatively permanent treatment center, but its design may await developments in the next biennium. The recommended expenditures would not be wasted should such a development ultimately come to pass.

In conclusion, our programs attempt to be flexible and adaptable to peoples' needs as they change from time to time. They have components of service, restora-

tion, and prevention. We work toward improvements in coordination, operation, and exploitation of the unique potentials in our combined department. We see some obvious needs beyond those expressed in these budget requests. They require either legislative changes or increased appropriations, some of the more important of these are:

- (1) We feel deeply that our welfare hospitalization program should be supplemented by the provision of nursing home care, primarily to provide needed care but secondarily to spare families and towns heavy financial burdens, to free hospital beds, and perhaps help to raise the standards of this type of care. A total program would cost over \$1,-000,000 per year. We could provide partial coverage for \$500,000, and it is even possible that Federal funds may be available before the end of another biennium. We estimate that there are at least 600 Old Age Assistance recipients in nursing homes at all times.
- (2) We are certain that continuing to try to collect for care in the tuberculosis sanatoria yields no return commensurate with the administrative costs involved. Doing away with these charges would make no difference in our budget requests. At the very least we would like to have removed the requirement for payment by towns of settlement.
- (3) We are in accord with the committee on Aging regarding the abolition of the citizenship requirement in Old Age Assistance even though it may increase our caseload by 400-500 cases.
- (4) We recommend that consideration be given to relieving towns of the 18% they now pay on Aid to Dependent Children grants, a total payment of about \$600,000 per year.

LEGISLATIVE APPROPRIATIONS AND REQUESTS

	<i>Actual</i> 1956	<i>Estimated</i> 1957	<i>Requested</i>	
			1958	1959
Welfare	\$5,343,558	\$5,059,307	\$4,939,036	\$ 5,150,779
Alcoholic Rehabilitation	17,770	18,186	42,280	43,096
Board and Care of Neglected Children	1,324,598	1,383,355	1,578,604	1,616,352
Support of State Paupers	869,037	868,305	875,792	876,260
Indians	144,049	144,679	174,944	174,944
Services for the Blind	122,760	123,902	211,012	219,728
Bureau of Health	569,283	532,280	669,212	678,466
TB Sanatoria	1,240,056	1,253,712	1,316,343	1,330,888
TOTAL	\$9,631,111	\$9,383,726	\$9,807,223	\$10,090,513

INDEX

VOLUME FORTY-SEVEN

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INDEX VOLUME FORTY-SEVEN GUIDE

January	Number One	Pages 1- 34
February	Number Two	Pages 35- 66
March	Number Three	Pages 67- 96
April	Number Four	Pages 97-126
May	Number Five	Pages 127-162
June	Number Six	Pages 163-192
July	Number Seven	Pages 193-228
August	Number Eight	Pages 229-268
September	Number Nine	Pages 269-298
October	Number Ten	Pages 299-328
November	Number Eleven	Pages 329-368
December	Number Twelve	Pages 369-408

Articles

A	
Atherosclerotic Limb, Bedside Evaluation of the (Palmer, Thomas H.)	377
Auditory Rehabilitation for the Deafened Child (Koons, Elizabeth O. and Hill, Frederick T.)	35
B	
Brain Ependymoma Case Report (Foote, Edward L.)	193
Breast, Surgical Correction of the Abnormally Large Female (Van Duyn, John)	304
Bromide Intoxication (Hannigan, Charles A. and Ambrose, Charles)	71
Burns, Surgery of (Briggs, Paul R. and Gomez, Julio A.)	138
C	
Carcinoma of the Cervix, A Plea for Early Diagnosis (Porter, Edward C.)	380
Cholecystitis, Acute (Charest, L. R.)	130
Conjunctivae, Pigmented Naevus of the — Report of Two Cases (Dennis, Richard H.)	45
Cranio cerebral Injuries (Crawford, Albert S.)	196
E	
Endometriosis of the Colon (Reynolds, John F.)	41
Erythema Multiforme Exudativum (Stevens-Johnson Syndrome) (Lansing, Peter F.)	209
Erythema Multiforme with Presence of Neutralizing Antibodies of Newcastle Disease Virus in Serum (Babalian, Leon) ..	254
F	
Fistula, Biliary (Crotty, John H.)	279
Fractures of the Shaft of the Tibia, Intramedullary Fixation of, with the Lottes Nail (Crawford, Joseph R.)	269
H	
Hair and Scalp Conditions, Dermatological Survey of (Brusch, Charles A., Kazanjian, Kenneth A., Ceresia, George; Sullivan, Ceril, and Papas, Prodromos N.)	166
Hamman-Rich Syndrome (Aranson, Albert)	105
Highway Accidents (Kafka, M. Martyn)	14
Hypertension, Benignant, of the Squirt Variety (Thompson, Philip P., Jr.)	101
I	
Inhalation Therapy 1956, Concepts of (Hickcox, Curtiss B., and Friedman, Jacob)	340
Internal Rectus, Absence of the, and Its Successful Treatment by Vertical Tendon Transplants (Hill, Howard F.)	43
Intestinal Obstruction, Intubation in (Carrier, John W. and Hiebert, Joelle C.)	67
Intussusception in Children (Ward, William W.)	11
L	
Laboratory Reports, Interpretations of Discrepancies in (Jackler, J. M.)	46
M	
Maxillary Odontogenic Cysts, Enucleation Combined with a Caldwell-Luc Procedure (Deighan, William J.)	372
Medical Reports in Personal Injury Cases, Preparation of (Barton, John J.)	299
Medicine and the Legionnaire (Allman, David B.)	127
Methyl Salicylate Poisoning (Thacher, Henry C.)	77
Musculoskeletal System, Genesis of Pain in (Giesen, Joseph H.)	39

N	
Nasal Function, Nasal Entrance in Relation to (Poulin, James E.)	274
Nisentil® in the Postoperative Period (Mack, Francis X.)	108
O	
Ophthalmology, Industrial (Spaeth, Edmund B.)	1
P	
Pancreatitis, Recent Experiences in Management of Recurrent, Acute and Chronic (Turner, Fennell P.)	202
Paper Electrophoresis, Some Uses of in a Clinical Laboratory (Chapin, M. A.)	73
Peripheral Vascular Disease (Blaisdell, E. R.)	236
Poliomyelitis, Renal Surgery in a Respirator-Dependent Patient (Emanuel, Meyer and Squires, Alden W.)	198
Preanesthetic Hypnosis with Rectal Pentothal, A Report of 1052 Cases (Timberlake, Ralph N., Jr.)	79
Private Practice of Medicine, A Venture into the (Carson, Robert J. and Chatterjee, Manu)	164
Psychosomatic Illness, Concerning the Concept of (McMichael, Morton)	247
Q	
Quinidine, Use of (Pfeiffer, Paul H.)	48
R	
Radioiodine as Test and Treatment in Thyroid Disease (Herrick, Stanley E., Jr.)	169
Radioisotopes in Hyperthyroidism, Use of (Goodof, Irving I.) ..	37
Rectal Proctidientia, Treatment of (Melendy, Oakley A.)	276
Rehabilitation, Symposium on (Rusk, Howard A.; Crane, Lawrence; Martin, Ralf and Fish, Nicholas)	346
Rheumatoid Arthritis, Differential Diagnosis and Treatment of (Glassmire, Charles R.)	241
Rural Practice (Briggs, Paul R.)	135
S	
Salmonella Salad (Houlihan, John S. and Carney, William J.) ..	369
Skin Lotions, Dermatological Evaluation of (Brusch, Charles A., Papas, Prodromos N., Lamphier, Timothy A., Grasse, Lewis A., Sullivan, Ceril, and Kazanjian, Kenneth A.)	310
Skin Manifestations of Systemic Diseases (Ansell, Harvey B.) ..	249
Small Bowel Problems, Management of (O'Donnell, Eugene E.)	97
Snapping Hip — A New Mechanism for Its Production (Woodcock, John A.)	163
Somatic Therapy in Psychiatry, Critical Evaluation of (Smith, Lauren H.)	334
Surgical Complications (Gregory, Philip O.)	9
T	
Then and Now (Dash, George E.)	6
Trimalleolar Fracture (Amrein, H. Carl)	170
Tuberculosis Control Procedures, Basic, Participation of Physicians in Private Practice in (Report of the Council on Public Health, American College of Chest Physicians) ..	109
Tumors of the Salivary Glands, Observations on (McEvoy, Charles D. and Wadsworth, Richard C.)	382
U	
Undulant Fever (Stein, Ernest W., Gomez, Julio A. and Briggs, Paul R.)	134
W	
Ways of Life and Heart Disease (White, Paul Dudley)	329
Whittier, Dr., F. N. (Drake, Eugene H.)	229
Wolff Parkinson White Syndrome (Jackler, J. M.)	273

Authors

Allman, David B., Atlantic City, New Jersey	127	Hiebert, Joelle C., Lewiston, Maine	67
Ambrose, Charles, Lewiston, Maine	71	Hill, Frederick T., Waterville, Maine	35
Amrein, H. Carl, Skowhegan, Maine	170	Hill, Howard F., Waterville, Maine	43
Ansell, Harvey B., Portland, Maine	249	Houlihan, John S., Bangor, Maine	369
Aranson, Albert, Portland, Maine	105	Jackler, J. M., Waterville, Maine	46, 273
Babalian, Leon, Portland, Maine	254	Kafka, M. Martyn, Forest Hills, New York	14
Barton, John J., Los Angeles, California	299	Kazanjian, Kenneth A., Cambridge, Massachusetts	166, 310
Blaisdell, E. R., Portland, Maine	236	Koons, Elizabeth O., Waterville, Maine	35
Briggs, Paul R., Hartland, Maine	134, 135, 138	Lamphier, Timothy A., Cambridge, Massachusetts	310
Brusch, Charles A., Cambridge, Massachusetts	166, 310	Lansing, Peter F., Togus, Maine	209
Carney, William J., Bangor, Maine	369	Mack, Francis X., Portland, Maine	108
Carrier, John W., Lewiston, Maine	67	Martin, Ralf, Portland, Maine	346
Carson, Robert J., Brunswick, Maine	164	McEvoy, Charles D., Bangor, Maine	382
Ceresia, George, Cambridge, Massachusetts	166	McMichael, Morton, Portland, Maine	247
Chapin, M. A., Lewiston, Maine	73	Melendy, Oakley A., Augusta, Maine	276
Charest, L. R., Biddeford, Maine	130	O'Donnell, Eugene E., Portland, Maine	97
Chatterjee, Manu, Brunswick, Maine	164	Palmer, Thomas H., Bangor, Maine	377
Crane, Lawrence, Portland, Maine	346	Papas, Prodromos N., Cambridge, Massachusetts	166, 310
Crawford, Albert S., Togus, Maine	196	Pfeiffer, Paul H., Waterville, Maine	48
Crawford, Joseph R., Augusta, Maine	269	Porter, Edward C., Bangor, Maine	380
Crotty, John H., Waterville, Maine	279	Poulin, James E., Waterville, Maine	274
Dash, George E., Boothbay Harbor, Maine	6	Reynolds, John F., Waterville, Maine	41
Deighan, William J., Bangor, Maine	372	Rusk, Howard, A., New York, New York	346
Dennis, Richard H., Waterville, Maine	45	Smith, Lauren H., Philadelphia, Pennsylvania	334
Drake, Eugene H., Portland, Maine	229	Spaeth, Edmund B., Boothbay Harbor, Maine	1
Emanuel, Meyer, Togus, Maine	198	Squires, Alden W., Togus, Maine	198
Fish, Nicholas, Portland, Maine	346	Stein, Ernest W., Pittsfield, Maine	134
Foote, Edward L., Togus, Maine	193	Sullivan, Ceril, Cambridge, Massachusetts	166, 310
Friedman, Jacob, Hartford, Connecticut	340	Thacher, Henry C., Lewiston, Maine	77
Giesen, Joseph H., Waterville, Maine	39	Thompson, Philip P., Jr., Portland, Maine	101
Glassmire, Charles R., Portland, Maine	241	Timberlake, Ralph M., Jr., Lewiston, Maine	79
Gomez, Julio A., Hartland, Maine	134, 138	Turner, Fennell P., Togus, Maine	202
Goodof, Irving E., Waterville, Maine	37	Van Duyn, John, Bangor, Maine	304
Grasse, Lewis A., Cambridge, Massachusetts	310	Wadsworth, Richard C., Bangor, Maine	382
Gregory, Philip O., Boothbay Harbor, Maine	9	Ward, William W., Portland, Maine	11
Hannigan, Charles A., Lewiston, Maine	71	White, Paul Dudley, Boston, Massachusetts	329
Herrick, Stanley E., Jr., Portland, Maine	169	Woodcock, John A., Bangor, Maine	163
Hickcox, Curtiss B., Hartford, Connecticut	340		

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Subjects of Interest to Members of the Medical Profession,
prepared by Daniel F. Hanley, Editor, including the following:

HR 7225 (Social Security Amendments Bill)	51-113-142-257
Medical Education Week	112
Fee Schedule for V.A.	179
Disability Freeze	182
Medical Care for Dependents of Members of the Uniformed Federal Services	284-315-391

Editorials

Food-Poisoning (Wadsworth, Richard C.)	387
What Is a Tissue Committee? (Blackburn, Nelson P.)	387

General

American Medical Association:

Actions of the A.M.A. House of Delegates at Interim Meeting	17
Report on Nationwide Survey of County Society Activities	53
Principles of Medical Ethics Undergoing Revision	260
A.M.A. Explains Lobbying Duties to Senate Group	356

Answering Blue Shield Questions:

Emergency Medical Benefits	27
X-Ray Services	61
Surgical Services	87
Obstetrical Services	153
Services to Newborn Child	153

Book Reviews:

The Interpretation of the Unipolar Electrocardiogram — Gordon B. Myers, M.D. (The C. V. Mosby Co., 1956)	158
--	-----

Correspondence:

Social Security	23-124
Maine National Guard, M.D.'s in	92
Routine Survey Chest X-ray	92
Dues of the M.M.A.	124
Poliomyelitis Vaccine Demonstration Program	158
Medicine and the Legionnaire	224
Establishment of a Medical Library	297
New Hampshire-Vermont 1956 Convention	365

County Medical Societies:

Deceased	30-326
New Members	28-66-91-318-364

Society Notes:

Aroostook	62-222-396
Cumberland	396
Franklin	28-120-396
Hancock	28-90-123-156-188-362
Kennebec	90
Lincoln-Sagadahoc	62-90-123-156-188-318-362-397
Oxford	362
Penobscot	188
Somerset	188
Waldo	91-397
Washington	62-222-397
York	66-123-190-364

Department of Health and Welfare, State of Maine

Cleft Palate Evaluation Clinic	25
Aid to Disabled Program	25
Maine's TB Sanatoria	26
Aid to the Disabled	58
Symposium on Problems of Tuberculosis in Childhood	60
The Federal Hospital and Medical Facilities Survey and Construction Act (Hill-Burton)	88
Poliomyelitis in Maine	118
Psychological Care of Tuberculosis in Children	154

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Welfare Programs for Needy Patients 185

Standards for Adoption 219

Chest Survey Hospital Admission X-Ray Programs 221

Potential Value of Maine Nursing Homes 263

Farm Life Presents Hazards to Health 264

Your Health — A Community Goal 290

State Policy on Payment for Medical Care 317

Polio myelitis Vaccine in Maine 360

Summary of Tuberculosis Study Committee Report 360

Physicians Invited to Offer Suggestions Regarding Public Health Programs and Needs 361

Budget Requests 393

Maine Board Registration of Medicine:

Physicians Licensed to Practice in Maine 31-292

Maine Medical Association:

Amendments to the By-Laws, Proposed 149

American Medical Education Foundation 211

Reports:

Auditor's Report (1955-1956) 225

Committees, Standing:

Public Relations 190

Health Insurance 116-147-184

Investment 190

Legislative 183

Executive Director 313

Annual Session:

Delegates County Medical Societies 176

Program 143-171

Technical Exhibits 177

Rockland in 1956 215

Council 149-218

General Assembly 218

House of Delegates 149-215

Committees 1956-1957

Standing 262

Special 399

Council 359

Councilors:

3rd District, Robert L. Allen 261

4th District, Wilson H. McWethy 261

Fall Clinical Session, Program 319-358a

Honorary Members 175

President-elect, Francis A. Winchenbach 261

President, 1956-1957, Armand Albert 213

President's Page

Martyn A. Vickers 50

Armand Albert 283

Pownal State School 141-390

Tuberculosis Abstracts

Tuberculosis — Fundamental Questions Still Unanswered 32

The Preservation of Lung Tissue in the Treatment of Pulmonary Tuberculosis 64

A Look at Home Town Care 96

The Tuberculin Test 122-162

TB, Geriatric Problem 189

The Non-Hospitalized Tuberculosis Patient 228

Tuberculosis Study in Muscogee County, Georgia 268

Tuberculosis in Infants and Children 295

TB on Skid Row 320

Acceptable Standards in the Treatment of Tuberculosis 368

A Note on the Association of Emphysema, Peptic Ulcer and Smoking 398

Woman's Auxiliary:

Program, Annual Meeting 146-177

Necrologies

Small, Harold E. (Orange, California) 294

Kendall, Clarence F. (Biddeford, Maine) 321

Stimpson, Arthur J. (Kennebunk, Maine) 321

Lethiecq, J. Albert (Brewer, Maine) 397

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